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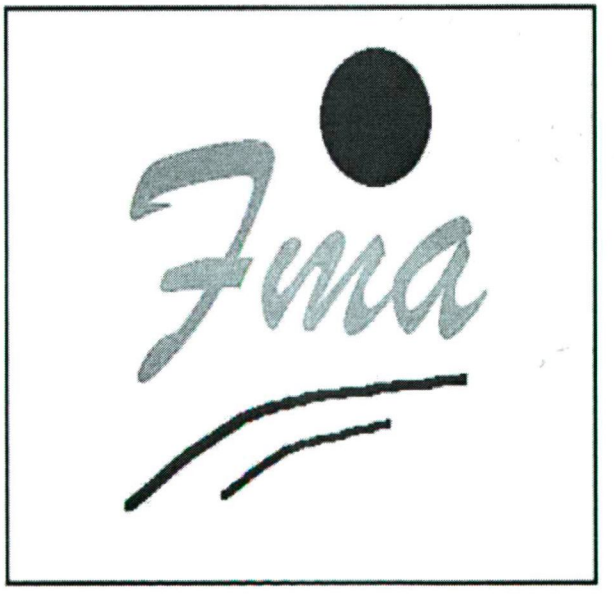
AGRÁR- ÉS VIDÉKFEJLESZTÉSI SZEMLE

A SZTE MGK TUDOMÁNYOS FOLYÓIRATA 3. ÉVFOLYAM 2008/1. SZÁM



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A TARTALOMBÓL:

A SZTE Mezőgazdasági Kar
Hódmezővásárhely
és a
University of Agriculture and Veterinary Medicine of the Banat, Faculty of Farm Management
Timisoara, Romania

közös szervezésében megrendezett

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Timisoara, Romania

24th April 2008

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A SZEGEDI TUDOMÁNYETEM MEZŐGAZDASÁGI KAR
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TARTALOM

A CD melléklet az előadások és poszterek teljes anyagát tartalmazza.

The CD Issue contains the complete papers of the Conference.

Agrár- és Vidékfejlesztési Szemle 2008. vol. 3. (1)

THE EVOLUTION OF AGRARIAN STRUCTURES OF PRODUCTION FROM ROMANIA

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The essential organizing characteristic is the great number of small size exploitations. Thus, agricultural exploitations with smaller size than 0,1 ha represents 9,5% from the total number of the agricultural exploitations. A simple calculation shows us that the number of exploitations till 1 ha represents in Romania 43,4% from the total number and 4,9% from the total area of agricultural exploitations. The pretability of these exploitations in promoting modern agricultural systems, characterized through low costs by product, great profit and great capacity on the competitive Europe and world markets, through prices and qualitative products at the European standards.

Management is one of the factors why a country is reach and another is poor, sustained Richard Farmer. The realistic message of this sentence brought it to be the frontispiece of the Farm Management Faculty. A part of the product resources used in agriculture has a natural character, thus it cannot be influenced by the man neither qualitatively nor quantitatively. But there is another resource category that depends only on the human activity. As a conclusion, both quantity and quality of the resources depend only on the men; we could mention here the organizational ones.

Exploitations with sizes 1-10 ha, are those that will become in the future, commercial farms. They occupy 53,8%, from its total and 45,8% from the total area of agricultural exploitations in Romania. Exploitations with sizes 10-100 ha represent 2,5% from its total number and 11,8% from agricultural area in use of the country.

Agricultural exploitations with sizes over 100 ha, must be also analyzed. They occupy 0,3% from its total number and 37,5% from the total area in use in the country. These exploitations exceed through the area covered. Some people, (especially those who mourn communism), say that these exploitations tend to become as in the feudalism. As specialists in the field of agriculture, concerning decisional level, we affirm that the apparition of these exploitations is a step forward to that form of agricultural exploitation that needs to face all the production requirements and especially, competition on the European Union market. We characterize these exploitations as capitalist and we reflect that:

- there is a great concentration level on land law;
- there is a great level of capitalization (of technical, human, financial, and informational resources);
- the pretability of these exploitations in promoting modern agricultural systems, characterized through low costs by product, great profit and great capacity on the competitive Europe and world markets, through prices and qualitative products at the European standards.

THE IMPORTANCE OF TRANS-FRONTIER COOPERATION IN THE DKMT EURO-REGION TOURISM

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The dimension of tourism in Europe in some regions or countries etc is approached frequently by economic indicators – the active population in this field, the volume of tourism expressed in the number of over night staying in the visited areas, consumption, turnover, incomes from tourism, tourism contribution to GDP, incomes of population working in tourism (integrally or partially) etc. European dimension of tourism means in fact, a constitutive element, a component with increasing potential in the new face of the continent: The United Europe. The geographical position of Timis County is very appealing for tourism development inside the Euro-region DKMT.
The creation process of this Euro-region has, three historical milestones:

- 1994 – the first version of DKMT, set up by the protocol between two regions from Romania, two from Hungary and one from Yugoslavia;
- 1996 – the second version of DKMT, set up by the protocol of extension towards two adjacent regions from Hungary;
- 1997 – the third version of DKMT, set up by the partnership widening protocol between the three countries, correlated with the introduction of the Green Charter of regional development in Romania;
- November 21, 1997 – signing of the Danube-Criş-Mureş-Tisa protocol.

• The geographical position of Timiş County represents an opportunity for the development of tourism within the DKMT Euro-region. The strategic directions referring to the implementation and development of an efficient service network in Timişoara are:

- establishing a tourism agency – organization financed from the local budget with the purpose of developing a regional marketing strategy based on market studies;
- publishing and spreading promotional materials about the tourism offer (info desks, travelling maps, street signs, re-publishing of a tour guide in many foreign languages, web pages, etc.)
- identifying construction sites and attracting potential investors, both local and foreign in order to build four or five-stars hotels;
- creating a Business and Conference Centre and an Exhibition Centre providing facilities and services for foreign tourists (multifunctional flexible spaces, protocol rooms, simultaneous translation equipment and personal, audio and video equipment);
- holding annual fairs: "Tourism in Banat";
- elaborating a coherent and systematic development strategy in urban tourism in order to highlight the specificity of the Timişoara area by capitalizing the cultural and historical attraction; involving local authorities in elaborating this strategy;
- creating specialized services in initiating and promoting special tourism events (Banat folklore route, traditional local events);
- including the Technical Museum and traditional factories in the city tour;
- creating bridges between docs and ships, tourist ports, rehabilitating the Bega channel, the surrounding areas, the nautical bases as well as introducing the notion of "interior sea" for the Bega channel;
- speeding up the consolidation of the river Timiş bancs and of the water landscape for short term tourism (setting up beaches and swimming pools, camping sites for fishing, cycling circuits);
- speeding up the work in the city outskirts for weekend tourism (a golf course near Timişoara, horseback riding course, biking and motorcycling courses).

CHALLENGES OF PLANT BREEDING EARLY IN 21ST. CENTURY

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At the beginning of the 21st century, agriculture faces many challenges. The questions and problems with special respect to plant breeding, we have to face are:

Growing human population. The main problem from breeding respect is that the population is growing faster than increases in food productivity. The need to improve crop productivity, to reduce the use of harmful agrochemicals and to produce nutritious and healthful food is greater today than ever before.

Sustainability *(Protection of Environment and Biodiversity).* The new concept implies meeting current human needs while preserving the environment and natural resources needed by future generations. To meet this demand, it may be the organic breeding.

Globalization. Its consequence, a conflict has been generated between multinational and local Seed Companies, and between the multinational and local breeders.

Global warming. Global climate change may lead to changing the local environmental conditions also in Europe. The consequence including the change in quality and quantity of biotic and abiotic stress.

Conventional or organic breeding? Organic sector of European agriculture is rapidly growing. Organic crops and varieties are required transgene free, implicitly organic farming sector needs special varieties.

Breeding for food or biofuel use? The main task of plant breeders are the optimization of the fatty acid composition in plant oil in addition amilose and amilopectin ratio in starch for both food and biofuel use.

Conventional or transgenic breeding? Most of the issues mentioned earlier, beg for molecular and biotechnical solution in plant breeding. Biotechnology based conventional breeding, offers appealing opportunities to develop new varieties capable to meet the new challenges.

Plant breeding contribution to meet the challenges. Considering the magnitude of the challenges we face, we should in general use all new knowledge and tools that can contribute to overcome the previous mentioned problems. Fundamental research in plant biology including molecular genetics, molecular biology, genomics, molecular physiology, and new interdisciplinary fields, as *in vitro breeding, molecular breeding and transgenic breeding* will help our capability to prevent the bad consequences or to overcome above mentioned difficulties.

Conclusion

It is clear that the challenges we face in the 21st century are greater than those we faced in the last century. Agriculture is called upon to produce more food and feed, more fuel and more industrial raw materials, I hope, modern plant breeding used in vitro, molecular and transgenic approaches is a magic bullet that will solve all of above mentioned problems and will play a key role in achieving those goals.

Key words: sustainability, globalization, in vitro breeding, molecular breeding, transgenic breeding

THE POSITION LOSING OF ANIMAL HUSBANDRY IN AGRICULTURE

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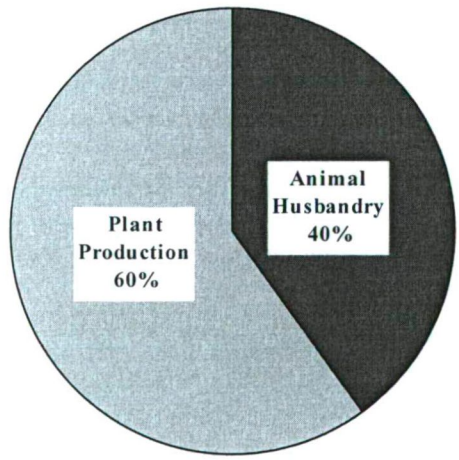
The ratio of agriculture in the nation economy changed for several times during the past 30 years. In contrast with the „golden age" of the 1970'ies, the wage of agriculture decreased to 3 to 4%, but according to optimistic calculations and defining the agribusiness in an expanded way, this ratio is about 13 to 14% comprising the relating branches.

On the basis of the latest statistical data, the gross output of the agriculture is about 50 thousands billion HUF, from which the share of agriculture is 2 thousands billion. The added-value (GDP) is 20 thousands billion HUF at the nation economic level, from which that of agriculture is 850 billion HUF. These figures are only understandable if it is known that for example the yearly subsidization of the agriculture (from national and EU-sources) is about 400 billion HUF, constituting half of the GDP produced by the agriculture and one fifth of the whole production value.

The author in the presentation deals with the fact that what caused the decline of animal husbandry in contrast with plant production; how this unfavourable ratio of 60:40 could evolve when comparing plant production and animal husbandry.



Proportion of the Gross Output

What the reason is for the decreasing animal stock; and how the effect of changes in the elements of the economic efficiency such as yields, prices, subsidies, production value, inputs, costs, profits can be evaluated in case of more important animal husbandry enterprises highlighting several significant animal products.

CORRELATION OF STEP TRAITS AND BODY MESUREMENTS IN LIPIZZAN HORSES

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The results came out of the scientific project "Analysis and Genetic Improvement of Sport Horse Breeds in Croatia", conducted by the support of the Ministry of Science, Education and Sport in the Republic of Croatia.

Rectangular body format achieved with permanent selection in making modern Lipizzan breeding for driving purposes in Croatia, resulted with long and extended walk. Quadratic body found in the classic Lipizzan type causes shorter and less extended walk which is not desirable characteristic in sport driving horses. Therefore, the goal of this research was to improve, by using digital camera, the measuring of step characteristics which determine Lipizzan working ability. The step length and speed of walk and trot of horses held by reins were analyzed as well as their correlation (Baban, 2003, Baban et al., 2006). This research analyzed correlation of body measurements with traits of length and speed of walk and trot. Strong phenotypic correlation with 71 Lipizzan stallions and mares was determined between the step speed per second in walk at the distance of 20 meters and step speed per second in walk at the distance of 50 meters, which was highly significant on the level $P<0.001$. High significant correlation on the level $P<0.001$ was determined between step speed in trot per second at the distance of 50 m and step speed in trot per second at the distance of 20 meters. The same was between step length in trot at the distance of 50 m and step speed in trot in meters per second at the distance of 20 meters. Strong and high correlation on the level $P<0.001$ was determined between step length in trot at the distance of 50 meters and step speed in trot in meters per second at the distance of 50 meters. High correlation was determined in step speed in trot in meters per second at the distance of 20 and 50 meters (significance level of $P<0.001$). Very strong correlation with the level of significance $P<0.001$ was determined between cannon bone circumference and chest girth with withers height.

SAŽETAK

Pravokutan format tijela, koji je dugotrajnom selekcijom dobiven kod stvaranja modernog, hrvatskog uzgoja lipicanca za zaprežni sport, uvjetuje duži i izdašniji hod, a kvadratni format tijela kod klasičnog tipa lipicanaca uvjetuje kraći i manje izdašan hod, što nije poželjna karakteristika za sportskog zaprežnog konja. Zbog toga je cilj istraživanja bio unaprijediti mjerenje svojstava koja određuju radnu sposobnost lipicanca korištenjem digitalne kamere. Analizirana je dužina koraka u hodu i kasu na ruci, te brzina koraka kao i njihova međusobna povezanost (Baban, 2003., Baban i sur., 2006). U ovom radu, analizirana je povezanost tjelesnih mjera sa svojstvima dužine i brzine koraka i kasa.

Vrlo jaka fenotipska povezanost kod 71 lipicanskog pastuha i kobila utvrđena je između brzine koraka u hodu/sekundi na 20 m u odnosu na brzinu koraka u hodu /sekundi na 50 m što je i visoko signifikantno na razini $P<0.001$. Jaka povezanost utvrđena je za brzinu koraka u kasu/sekundi na 50 m i za brzinu koraka u kasu /sekundi na 20 m što je visoko signifikantno na razini $P<0.001$ kao i između dužine koraka u kasu na 50 m i brzine koraka u kasu u m/sec na 20 m. Vrlo jaka korelacija i visoko signifikantna na razini $P<0.001$ utvrđena je između dužine koraka u kasu na 50 m i brzine koraka u kasu u m/sec na 50 m. Vrlo jaka povezanost utvrđena je s brzinom koraka u kasu u m/sec na 20 i 50 m (visoka signifikantnost na razini $P<0.001$). Vrlo jaka korelacija s visokom signifikantnošću na razini $P<0.001$ utvrđena je između opsega cjevanice i opsega prsa s visinom grebena.

THE EVALUATION OF EGG PRODUCTION OF HUNGARIAN SPECKLED HEN

A MAGYAR KENDERMAGOS TYÚK TOJÁSTERMELÉSÉNEK ÉRTÉKELÉSE

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The three colour variations of the domestic hen species were bred from the Hungarian lea-land bird by the middle of the 20th Century. Because of the spread of intensive poultry keeping the population of this species has become endangered. Programs supporting ecological-biological farming that began in the last two decades placed the domestically bred birds in the forefront both as purebreds and as candidates in projects for developing merchandisable bio-poultry. Our Faculty has been dealing with the cross-breeding of Hungarian speckled hen to maintain the species since 1977. We keep two varieties of the Hungarian speckled hen, the bare-neck variant and the feathered-neck type on the pilot farm. Beside the gene preservation, we endeavour to find the best way for the production-purpose utilisation of the speckled hen stock. On the basis of our experiments the laying hens can be used in small scale egg production. We examined the hatching results, the egg production, the shape index of the egg and the eggshell colour.

Keywords: Hungarian speckled hen, egg production, shape index of the egg, eggshell colour, gene conservation

THE SLAUHGHTER VALUE OF HUNGARIAN SPECKLED HEN

A MAGYAR KENDERMAGOS TYÚK VÁGÓÉRTÉKE

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Due to altered economic, ecological and consumer demand, the role of doubly utilizable species have been upgraded such as indigenous poultry species and birds domesticated long ago. At present we can use various domestically bred hen species held in gene reserves only if we can find their place in merchandise production. The three colour variations of the domestic hen species were bred from the Hungarian lea-land bird by the middle of the 20th Century with aid of several foreign species and strong local interests. Because of the spread of intensive poultry keeping the population of this species has become endangered. Programs supporting ecological-biological farming that began in the last two decades placed the domestically bred birds in the forefront both as purebreds and as candidates in projects for developing merchandisable bio-poultry. In the Pilot Farm of Szeged University Faculty of Agriculture we are engaged in keeping two varieties of the Hungarian speckled hen (the "covered plumage" and "bold neck" strains) since 1977. In various research programs we have investigated the possibility of utility of the Hungarian speckled hen

In our examinations we examined the slaughter values of 12, 18 week old cocks, and soup hens withdrawn from production. We estimated separately the covered-neck speckled species and the bare.neck types. We valued the different main products (breast, thigh) yield and the utilised viscera. We found that the cocks and the soup hens are useful excellently for the maintenance of the Hungarian kitchen tradition.

Keywords: Hungarian speckled hen, gene conservation, slaughter value, main products (breast, thigh) yield, Hungarian kitchen tradition.

CORRELATION EXAMINATION BETWEEN THE BODY CONDITION AND BODY WEIGHT OF SAANEN GOATS

A TESTSÚLY ÉS A KONDÍCIÓ ÖSSZEFÜGGÉS VIZSGÁLATA SZÁNENTÁLI KECSKÉKNÉL

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We carried out our experiment in a livestock of Saanen goats devoid of infectious diseases. Today an average production of 2.0-2.2 kid/mother/year and 600-700 litre/milk/animal/year can be expected in the half intensive keeping. We analysed 29 mothers, each of them had kids in February of 2007. We measured the body condition and the body weight of the goats every month for six months. We tried to find the answer if the changes of body condition influences the changes of body weight,and if so, to what extent. We examined the connection between the two variables every month. To do this we made correlation calculation and regression analysis. Our results show that the change of the body weight depends only slightly on the change of the body condition. The value fo the r^2 changes between 0.08 and 0.123. However the trend shows that in case the body condition increases then the body weight also increases. The change of the monthly average values of body condition and body weight indicates the same tendency. If the body condition decreases then the body weight cecreases as well, and vice versa. Based on this connection we counted that to reach 1 body-condition-point increase goes together with 8 kg-s of body weight increase.

Keywords: correlation, body condition, body weight, saanen goat, reproduction

PHYSIOLOGICAL APPROACH TO PRODUCTION EFFICIENCY OF RAINBOW TROUT (*ONCORHYNCHUS MYKISS* WALBAUM) AT DIFFERENT AMBIENT TEMPERATURES

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A satisfactory fish growth can be achieved with adequate feed, for that it is necessary to know which nutrients fish need in different stages of growth and how to make proper balance of nutrients for their maximum utilization. In this study, growth physiology was investigated in rainbow trout under experimental (optimal) conditions at two different ambient temperatures, 9 °C and 14 °C. During the experiment, the fish were fed with pelleted feed. Daily feed quantity was determined proportionally to fish weight and ambient temperature. Individuals used in the experiment were of the same kind, old up to one year, taken from pond fish farm „Tropic". During the experiment, the following water quality parameters were monitored: oxygen concentration, pH and COD. Water in aquariums was changed twice a day, and daily feed rations were equally disposed. The aquariums were provided with adequate devices for aeration and water purifications. At the end of experiment the fish bred at temperature of 14°C, had a higher growth than the fish bred at 9°C, but feed conversion ratio was better in fish bred at temperature of 9°C. All differences are statistically significant ($p<0.05$)

Key words: physiology, trout, growth, experiment.

EFFECT OF CAGE SIZE, FLOOR TYPE AND STOCKING DENSITY ON THE MEAT QUALITY OF GROWING RABBITS

A KETRECMÉRET, A PADOZAT ÉS A TELEPÍTÉSI SŰRŰSÉG HATÁSA A NÖVENDÉKNYULAK HÚSMINŐSÉGÉRE

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The experiment was carried out with Pannon White growing rabbits, which were divided into four experimental groups:

1. rabbits were reared in pens, on wire net floor, at 16 rabbits/m^2 stocking density,
2. rabbits were reared in pens, on wire net floor, at 12 rabbits/m^2 stocking density,
3. rabbits were reared in pens, on straw litter, at 12 rabbits/m^2 stocking density,
4. rabbits were reared in conventional cages (2 rabbits/cage, 16 rabbits/m^2).

The experiment took place between 5 and 11 weeks of age. At the end of the trial animals were slaughtered, and the following meat quality parameters were measured: pH 24 hours after slaughter in the *m. Longissimus dorsi* and in the hind leg meat, dry matter content in the *m. Longissimus dorsi* and in the hind leg meat, meat color (L, a*, b*) in the *m. Longissimus dorsi*, dropping, cooking and thawing loss in the *m. Longissimus dorsi* and the share force also in the *m. Longissimus dorsi*. Based on the results it was established, that the pH was not affected by the cage size, floor type and stocking density. The dry matter content of the hind leg meat was significantly higher in the conventional cages, on the wire net floor and at 12 rabbits/m^2 stocking density. The dropping and thawing loss of the *m. Longissimus dorsi* was highest in rabbits reared on the straw litter floor. The cooking loss was affected significantly only by the size of cage. The share force was significantly affected by the cage size and stocking density. It was concluded, that rearing on straw litter decreases the dry matter content and increases the dropping and thawing loss in the rabbit meat, therefore this rearing method is not suggestible for the practice.

Kulcsszavak: nyúl, húsminőség, ketrecméret, padozat, telepítési sűrűség

INFLUENCE OF DIFFERENT CATTLE GENOTYPES ON GENETIC PARAMETERS EVALUATION IN FATTENING TRAITS

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Total economical efficiency and contribution of the genetic improvement in the production of beef was investigated. The research work included contribution of some more important fattening traits to the general productivity. Special attention was given to the optimal use of available genotypes of young bulls. The research included data related to carcasses of bulls – crossbreeds F1 generation of Domestic spotted and Charolais (48) Domestic spotted and Limousine (51) young bulls and control group of Domestic spotted (56) bulls. The animals included in the research were tied during the experimental period. Ration for all groups was based on bulk food. The results of the investigation of the effect of genotype on major fattening traits and carcass quality indicate a significant deviation from the general average in favor of the crossbreeds compared to the control group. Young bulls of Domestic spotted breed deposited more fat tissue compared to crossbreeds of fattening breed in half sides. According to the increased values of heritability in relation to MLD area and carcass weight clearly show that genetic variance for this trait exists. The observed trends in evaluation of genetic correlation of investigated traits reflected through high marks of the heritability coefficient indicate that the selection based on carcass weight, surface of the MLD, meat, fat and bone content can be a reliable indicator for the improvement of the yield and quality of meat from young cross-breed bulls comparing with Domestic spotted bulls.

Keywords: young bulls, meat, crossing, genetic parameters, fattening.

THE RESULTS OF EMBRYO TRANSFER IN HUNGARIAN CATTLE BREEDING

A HAZAI EMBRIÓ-ÁTÜLTETÉS EREDMÉNYE SZARVASMARHA-TENYÉSZTŐI SZEMPONTBÓL

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With the aim of being successful of the Hungarian cattle-breeding, modern breeding and biotechnological procedures are necessary to use. Embryo transfer (ET) has been doing since 1978 in Hungary. The authors have examined the effects of embryo transfer on genetic evaluation of holstein friesian and effect of age of the donors on embryo production and quality.

Animal model has been used to study the impact of embryo transfer in our examinations. Herd, year of lactation, season of lactation, number of calving, month of calving were the fix effects in our model. According to the elaboration of our data, this biotechnological process has no notable effect on cattle breeding.

The main reasons are the economical factors in Hungary and low efficiency of ET. This is why this method is not common in this country (<1%).

We suggest more common application of ET, better donors' selection and improvement of ET efficiency to promote genetic evaluation. Besides the previous suggestions the selection of recipients is also important. The lot of offspring from donors improves the effects of ET on the breeding.

Kulcsszavak/Keywords: embrió-átültetés/embryo-transfer, szarvasmarha-tenyésztés/cattle-breeding, egyedmodell/animal model, donor kora/age of donor, embrió-termelés/embrió production

THE MACRO AND MICRO ELEMENT CONTENT OF THE ORGANS OF HEALTHY MARINO SHEEP AND OF THOSE WITH FOOT DISEASES

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The Ca content of the fleece of grazing sheep (1860 mg/kg) is larger than that of the indoor sheep (1760 mg/kg). The horn wall contains more Ca than the bottom of the horn in the case of both indoor groups while the bottom contains more Mg than the wall. The measured quantities prove the opinion of B. KOVÁCS (1977) stating that the Na concentration is larger in the wall of the horn than in the bottom of it, while in the case of the Mg it is vice versa. The Mn content of the fleece (2.8; 1.9 mg/kg) and the liver (2.4; 3.5 mg/kg) of the indoor sheep is rather little, and also the Zn content (fleece 18; 57 mg/kg) (liver 44; 35 mg/kg). It justifies the statement of RÉGIUSNÉ MŐCSÉNYI (1990) that it is only the pasture grass that can meet both the Mn (60 mg/kg) and Zn (40 mg/kg) requirement of the sheep, because the grass contains more Mn and Zn than the hay and the forage. The Mn content of the bottom of the horn of the grazing sheep (26 mg/kg) is the double the amount of that of the indoor animals (13.1; 15.1 mg/kg), the reason can be that with a better Mn supply the Mn content of the foot horn is also increasing.

Keywords: sheep, element content, foot horn, bottom, wall

VÍRUSBETEGSÉGEK BÚZÁBAN: DIAGNOSZTIKA ÉS VÉDELEM

VIRAL DISEASES ON WHEAT: DIAGNOSIS AND PROTECTION

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The reliable monitoring of field virus infections of crop species is important for both farmers and plant breeders. Many cereal viruses were described in the second half of the 20th century. The most important challenge was to identify and detect different pathogens. Improved identification methods were developed which were more suitable for this task. At first, the detection of the viruses was done visually, based on disease symptoms. With the advent of electron microscopic methods and their diagnostic application viruses could be separated on the basis of their composition and architecture. The visual detection of viruses was further advanced by the new serological and molecular techniques. The most important cereal viruses were easily detectable by enzyme-linked immunosorbent assay (ELISA) using the viral coat protein as antigen. The most efficient and well-known virus diagnostic procedure was elaborated by the polymerase chain reaction (PCR) based on target amplification. The sensitivity of the PCR-based methods was higher than the above mentioned methods. PCR was applied successfully in the detection of cereal viruses using suitable primer pairs. An additional benefit of this method was the possibility of simultaneous diagnosis and detection of mixed virus infections.

Wheat is exposed to many pathogens because of its wide geographical spread. Although sixty-six viruses are able to infect grasses, only a few of them causes economically important yield depression on wheat. In Hungary, the four most dangerous cereal viruses are the *Wheat dwarf monogeminivirus* (WDV), the *Barley stripe mosaic hordeivirus* (BSMV), the *Wheat streak mosaic tritimovirus* (WSMV) and the *Barley yellow dwarf luteovirus* (BYDV). WDV is a single-stranded DNA virus while BSMV, BYDV and WSMV are single-stranded RNA viruses.

In this presentation, data on the above mentioned four important cereal viruses (WDV, BSMV, BYDV and WSMV) are published. The aim of our experiments was to detect virus infections of winter wheat in the extra mild 2006/2007 season. Twelve well-known winter wheat varieties were sown on two different dates (11th of October and 3rd of November 2006) and then, virus infections were studied at spring of 2007 using both by the traditional ELISA and by PCR-based methods.

The aphid-transmitted BYDV was found frequently whereas other viruses were found very rarely or were not detected. Forty-six per cent of the examined early-sown wheat plants proved to be infected by BYDV in ELISA, while using PCR, the virus was found in 58 % of the samples. Further, the results suggest that the optimal sowing time is critical in the control of cereal virus diseases, and additionally, that wheat varieties respond to the virus infections differently.

PYRAMIDING MAJOR GENES FOR RESISTANCE TO LEAF RUST PATHOGEN OF WHEAT

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The individual use of single race-specific resistence genes with major phenotypic effects has rarely provided lasting resistence. However, breeding and combining or pyramiding of resistence genes into individual cultivars has had considerable success, particulary in situation where the pathogen does not reproduce sexually, as in the case of wheat lwaf rust phatogen. Within international leaf rust of wheat investigations it was necessary, to create by breeding new resistant wheat lines to *Puccinia recondita tritic i*for differentiation of pathogen population, as well as for sources of resistance in European-Mediterranean regions.In the beginning 18 donors of resistance had been selcted after an extensive screening test of several International Rust Nurseries, to be crosses with recurente parents variates Princ and Starke. These testing proved that in those lines were present new resitant genes. Eighth geneticll different hybrids of the first backcross had been selected and tested in the seedling stage with three international pathogen cultures (YU-13-19-1; H-13-9-1 and C2-13-Ar-3). Considerable influence of recurente parent to the number of resistant genes in donors used were demonstrated. On the other side, it was established considerable influence of the pathogen culture to the number of resisrance genes in donors used. The same crossing combinations tested with one pathogen culture results in presence of two resistance genes, but with another culture three or one resistence gene. in order to enhancement resistence and pyramiding genes in these hybrids, eight select the most interesting lines have been crossed with only effective isogenic containing the strong genes Lr9, Lr19 and Lr24. the genetic analysis of twenty two crossing combinations have been realized by testing with three pathotypes of *Puccinia recondita tritici* (Bg.s. 12/89; Is.w 8/89 and Chl.w. 14/89). On the base of different segragation ratios of all crossing combinations it was proved that no one of the resistant donors did not contained the strong resistant genes used. It means, that our hybrid lines contained resistent genes from the donors and in addition three strong resistant genes Lr9, Lr19 and Lr24.

Key words: hybrids wheat, acumulations genes resistance, leaf rust pathogen

ECOLOGICAL TECHNOLOGIES TO VALUE VEGETABLES WASTES

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REZUMAT

În prezent conceptul de dezvoltare durabilă s-a extins şi pe lângă coordonatele sociale şi economice , are acum în vedere şi coordonata ecologică. În acest context , agricultura devine un factor important al prosperităţii putându-se demara aplicarea unui amplu proiect de folosire a unor noi tehnologii, care să contribuie la îmbunătăţirea performanţelor agriculturii din judeţul Timiş şi la dezvoltarea unei agriculturi ecologice. Prezenta lucrare se concentrează tocmai pe aceste tehnologii ecologice de gestionare a deşeurilor vegetale şi menajere, care să îmbunătăţească performanţele unei agriculturi ecologice.

ABSTRACT

At present, the concept of durable development has expanded and, besides the social and economic coordinates, it has now in view the ecological coordinate as well. In this context, agriculture becomes au important factor of prosperity, we have started off a large project of using new technologies whiele could contribute to improving agriculture efficiency in Timiş county and to the developing of an echologic agriculture.

The present paper focuses on the echologic technologies of managing vegetal waste, in order to improve the efficiency of an echologic agriculture.

Key words: ecologic technologies, durable development, fertilization, vegetal wastes

YIELD AND NUTRITION VALUE COMPARISON OF GRASSLANDS IN THE ZSELIC AREA

ZSELICI GYEPTERÜLETEK TERMÉSEREDMÉNYÉNEK ÉS TÁPLÁLÓANYAG-TARTALMÁNAK ÖSSZEHASONLÍTÓ VIZSGÁLATA 2006-2007-BEN

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An important part of the sustainable developing is to find the adaptation to the local area and the nature. This aspect could be found in the multifunctional European Agricultural model and in the rural development too. The main aims of farming are to assure the competitive produce, to improve the quality of the environment, and to sustain the resource management. Nowadays we use the way of the land appraisal known as the "aranykorona", which is an obstacle to the way of the sustainability. As we joined the EU, we have to update our agricultural production systems concerning the land use. Nowadays the evaluating of grasslands in Hungary is not solved, the details we have are disused, so it is hard to plan the yields of the grasslands, we can estimate them a posteriori. To evolve an up-to-date evaluating system we analysed grasslands at the University of Kaposvár Deer Farm at Bőszénfa to find answers to the followings:

- Pedologycal analysis of the humus, the N, P, K levels and the pH of the grasslands
- Describe the botanical composition by the Balázs-method
- The quality and the nutrition value of the grasslands
- The yields of the grasslands, by annual

Keywords: grassland evaluating, Zselic, yield, nutrition value, botanical conposition

MOLECULAR TAXONOMICAL COMPARISON OF DIFFERENT *FESTUCA* SPECIES

MOLEKULÁRIS TAXONÓMIAI ÉS POLIMORFIZMUS VIZSGÁLATOK *FESTUCA* FAJOKON

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Classification of some species from genus *Festuca* is still a controversial question. The goal of our experiments was the molecular comparison of the most questionable *Festuca* species to supply new data for the conventional taxonomy. There was no available molecular analysis regarding the most examined *Festuca* species before our experiments. Examinations were executed at molecular marker and sequence levels, as well.

Among the tested 47 RAPD and 19 AP-PCR primers, eight and six showed polymorphic patterns, respectively. For the determination of genetic distance between the examined species, the binary codes of 111 fragments of these 14 polymorphic primers were used. The examined *Festuca* species were classified into three well-separable groups on the basis of these results.

It has been proved that the separate *Festuca rupicola* groups independently of their separation based on the shape and size of their leaves, compose uniform species at molecular level. It has been proved that the sub-Mediterranean tetraploid *F. pallens* (4x) differs genetically from the subalpine diploid *F. pallens* (2x), which may modify the present classification. The species *F. javorkae* and *F. rupicola* can be differentiated from each other at the molecular level based on the result conducted by the PAL1 primer. It is worthy of note that the species *F. wagneri* based on our molecular classification was placed in a different group than its supposed parent species (♀: *F. vaginata*, ♂: *F. valesiaca* or *F. pseudovina* or *F. rupicola*).

After the above experiments based on PCR techology, comparison of internal transcribed region (ITS) and the chloroplast origin *trn*L intron have been executed at sequence level in the studied species. The amplification and sequencing of the ITS and *trn*L intron regions was achieved in 27 specimens of 10 species. The determined sequences were placed into the NCBI Genbank where among the 10 species in 8 cases this meant the first entry. Intraspecific ITS variation was detected only in *F. rupicola.* In the other 9 species there was no detectable difference between their individuals even if they originated from different locations. In these species polymorphism was manifested only in intragenomic differences which can be explained by the high number of copies of rDNA and the possible differences between them. Among the sequences of the *trn*L intron even intragenomic polymorphisms were not detected in any of the *Festuca* species studied.

Kulcsszavak: *Festuca ovina* csoport, RAPD, AP-PCR, ITS, *trn*L intron

POSSIBILITIES OF FIELD PRODUCTION OF FRESH POTATO IN THE SPRING AND IN THE AUTUMN

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The climatic conditions of Hungary are favourable for the production of short-season fresh potatoes. Early production is increasing. The dry matter and starch content of fresh potato are low, the other inner content parameters (high vitamin C content, lysine, methionine and cystine content) are favourable regarding nutrition physiology and it is suitable for preparing special dishes.

A "special way" of producing fresh potato is to plant it in the summer, not only after cereals but also after other forecrops, furthermore, it can also be planted after early potato (double cropping).

In 2006 and 2007, we set up a field experiment at Mórahalom by planting an early potato and then after its harvest fresh potato was produced in the same field by summer planting. Our aim was to study and develop experimentally the possibilities of double cropping, that is production of fresh potato twice in the same season. The new Hungarian variety Pannónia was used for the experiment, which has a short vegetation period, good resistance, high yielding capacity and good taste.

In the experiment, the double cropping of fresh potato resulted in an annual yield of 72.3 t/ha, 49% and 51% of which was spring and autumn fresh potato, respectively. The distribution among size categories and the quality of yield were favourable. The total annual fresh potato yield in the experiment was 47.3 t/ha (289%) higher than the national average. According to the results, the outcome of the experiment was positive.

The double cropping system can be recommended primarily in the southern, irrigated parts of the Homokhát region with the variety *Pannónia*. With this new production system, a 50% higher annual income can be achieved than with a one-time early field production. The new product, the autumn fresh potato with thin skin can have a higher value and enriches the product assortment in the winter period. According to the comsumption habits in Hungary, customers demand and buy the fresh potato from the end of April until the end of June. Autumn fresh potato produced in double cropping can have a significant market in the winter period (Christmas and New Year).

Keywords: fresh potato, summer planting, double cropping, sandy soil, variety *Pannónia*

A KALCIUM NÖVÉNYÉLETTANI SZEREPÉNEK, JELENTŐSÉGÉNEK VIZSGÁLATA A PAPRIKATERMESZTÉSBEN. HUMÁNÉLETTANI SZEREPE AZ EMBERI TEST FEJLŐDÉSÉNEK SZAKASZAIBAN.

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During the vegetable production the nutrient content of the soil is one of the most important factors in the interest of achieving continous, optimal growth and yield. In the inland and abroad outdoor and hydroculture paprika production systems the lack of calcium nutrient is frequent. Its cause should not be searched only in the calcium resource of the soil, but it is also influenced by the type and appropriate producing apparatus. The symptoms caused by the calcium deficiency cause irreversible mutations on the paprika fruit resulting rather serious economical damage to the production. I'm investigating the possibility of the solution for this problem by producing and testing a new type within inland and Japanese conditions.

Kulcsszavak: kalciumhiány, kalcium igény, paprika, termesztés, növénynemesítés, talajösszetétel humán táplálkozás,

Key words: calcium nutrient, calcium claim, paprika (Capsicum annum), production, plant breeding, soil content, human food,

FLOWERING, RIPENING AND STALK STABILITY IN CONFECTIONARY TYPE SUN FLOWER AT DIFFERENT AGRONOMICAL STATUSES

ÉTKEZÉSI NAPRAFORGÓ VIRÁGZÁSI- ÉS ÉRÉSI DINAMIKÁJA, SZÁRSTABILITÁSA KÜLÖNBÖZŐ AGRONÓMIAI HATÁSOKRA

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The observation was made on Kisvárdai cv. wellknown sunflower in confectionary market, with three parameters at usual ecological growing condition. (By acid soil with low humus, macroelement, medium soil fractions content, small amount of precipitation at the beginning of the vegetation period, relatively hot air temperature in whole period.)
The agronomical circumstances of observations give the next variants: embanking versus hoeing; 35 cm versus 70 cm plant distance; 5,0 cm versus 7,5 cm sowing dept. The parameters observed: flowering (5 times); (yellow) ripening 3 times), stalk falling at the end of the vegetation period.
Conclusions by the basic of the results have got: Employing of the embanking decreased the length of the flowering and the ripening period and the proportion of the stalk falling. Enhancing the plant distance of 35cm to 70 cm positively affected the flowering and ripening characters of the populations, but enhanced the stalk falling some instances. Relatively minor effect manifested by the sowing depth increasement.
Some instances were the results unusual, e.g. the flowering of the treatment – hoeing - 70cm sowing distance, 7,5cm sowing dept – was better than the treatment with embankment – 70 cm plant distance and 5,0 or 7,5 cm sowing dept.

Keywords: sunflower, flowering, ripening, embanking, plant distance, sowing depth.

MARKER ASSISTED SELECTION IN TOMATO FOR ROOT-KNOT NEMATODE RESISTANCE BREEDING

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The the root-knot nematodes (Meloidogyne spp.) are the most dangerous pests of the tomato (Lycopersicon esculentum Mill.). The easiest, cheapest and the most environmentally friendly way of protection is the breeding and production of resistant hybrids. The resistance gene, Mi, originating from the wild tomato species L. peruvianum, confers effective resistance in cultivated tomato against root-knot nematode species. Mapping markers closely linked to the resistance gene makes possible an early and cheap selection of genotypes.

In our work, molecular markers were used to determine the genotypic constitution of Mi gene in breeding lines of ZKI Zrt. Kecskemét, F_1 hybrids and 18 foreign varieties. Previously these breeding lines and hybrids were tested for nematode resistance by artificial infection.

Presence or absence of the Mi gene was examined with gene-specific PCR primers. Amplification of a 500 bp fragment indicated the existence of the Mi gene in the resistant genotypes, while its lack from sensitive cultivars showed, that dominant Mi gene is not present. A CAPS marker, REX provides a possibility to discriminate the homo- and heterozygous genotypes within the resistant lines. REX primer pairs amplified a 720 bp fragment in all genotypes independently of their resistance characters. TaqI restriction enzyme digested only the PCR product amplified in the resistant genotypes, resulting in two fragments (554 bp and 166 bp) in homozygous lines. Due to the indigestibility of marker-allele present in the susceptible plants three DNA fragments (720 bp, 554 bp, 166 bp) were detected in heterozygous genotypes. The separation of the three different genotypes became easier with the PMiF primers designed for the promoter of the Mi gene, since the application of this marker does not require restriction digestion. A 350 and a 550 bp fragment was amplified in the sensitive and in the resistant homozygous genotype, respectively, while in the heterozygote both DNA fragments (350 and 550 bp) appeared.

To confirm the marker-treat cosegregation, artificial infection was performed in F_2 population. Extent of damage was determined by counting the female and egg masses. Checking with artificial infection, the molecularly predicted resistance means real resistance in provocative environment.

Our results indicated that the uses of molecular markers linked to the root-knot nematode resistance gene are reliable and successfully adaptable in tomato breeding programs.

MOLECULAR DIVERSITY OF WATERMELON (*C. LANATUS*) AT NSSR AND CPDNA LOCI

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The aDNA (*a*ncient DNA) recovered from excavated remains of plants and animals supply unique materials not only for the analysis of post-mortem DNA degradation, but also for tracing vegetation history and microevolution. Intact aDNA sequences or complete genome of the extinct organisms can be reconstructed in the case of optimal preservation conditions (GYULAI *et al.* 2006, Seed Science Research, 16, 179-191). In this study we present the analyses of seed morphology and aDNA study of 700-, 600- and 170-year-old watermelons together with a comparison to modern cultivars.

In the study presented, molecular analyses of seed remains of watermelon (*Citrullus lanatus lanatus*) excavated from two sites from the Middle Ages 13-14th A.D. (Debrecen) and 15th centuries A.D. Budapest (Hungary) are reported. Seed remains were processed by floatation followed by seed sorting and identification in the laboratory. After seed morphological analysis aDNAs were extracted, analyzed at eleven microsatellite (SSRs) loci with a final aim of sequence recovery and phenotype reconstruction. For comparative analysis, an herbarium sample from the 19th CENT. A.D. (Pannonhalma, Hungary) and forty-four current varieties were used. Sequence analysis of ancient samples compared to current varieties revealed at $(CT)_3$ deletions at the $(CT)_{26}$ nSSR locus, and substitutions at the cpDNA Clp-12 locus. Molecular dendrogram based on microsatellite analysis revealed that middle age samples are close to current varieties with red flesh colour which indicate the preferential cultivation of red-flesh and not yellow-flesh watermelon in the Middle Ages in Hungary. The 170-yr-old herbarium sample showed close molecular similarity to citron melon (*Citrullus lanatus citroides*) which also reflects the importance of citron melon as fodder in Middle-Age Hungary. Results of seed morphology were highly correlated with molecular data.

THE ROLE OF BERRY FRUITS IN HUNGARY'S FOOD PROCESSING

A BOGYÓSGYÜMÖLCSÖK SZEREPE A HAZAI ÉLELMISZERFELDOLGOZÁSBAN

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ABSTRACT -

The last decade has witnessed an ever-increasing interest in a healthy diet in Hungary. The consumption of more vegetables and fruits contributes to the lower incidence of cardiovascular diseases and cancer. Several studies have shown that berries have antioxidative and anticarcinogenic effects, which are partly proposed to be due to their biologically active components. Our experiments were carried out on berries including strawberry *(Fragaria x ananassa* DUCH.*)*, raspberry *(Rubus idaeus* L.*)* red (*Ribes rubrum* L.) and black currants *(Ribes nigrum* L.), blackberry *(Rubus caesius* L.). Besides the properties of the fresh fruit of different species and cultivars, the following parameters of products processed from these raw materials were also determined: total polyphenol and anthocyanin content, antioxidant capacity, H-donating activity. Sensory analysis of products was also carried out. Our aim was to compare the above detailed parameters of the analysed species, cultivars and products. In the next phase, we will characterize products produced from fruits of a given cultivar to be able to survey which cultivar can serve the most appropriate products according to the highly specialized demand resulting from various diseases. Among the species and cultivars, significant differences were obtained. The differences were 4-6 times higher in polyphenol content and 10 times higher in the anthocyanin content of samples. The closest correlation could be shown between the total phenol content and antioxidant capacity. The increase in the antioxidant activity of fruits followed the next order strawberry < red currant < raspberry < black currant < blackberry. The measured parameters reflected the fruit composition of products: the higher the proportion of black currants or blackberry, the more valuable antioxidant capacity could be determined. With a relevant and purposeful product range, berries can contribute significantly to the establishment of a health protecting diet.

Keywords: antioxidants, berries, polyphenol, healthy diet, sensory analysis

EFFECTS OF SOIL ELEMENT COMPOSITION ON THE NUTRIENT CONTENTS OF GRAPE CULTIVARS AND WINES PRODUCED IN BADACSONY

A TALAJ ÁSVÁNYI ELEM ÖSSZETÉTELÉNEK HATÁSA A BADACSONYI SZŐLŐFAJTÁK (*Vitis vinfera* L.) ÉS BORAIK ÁSVÁNYI ELEM TARTALMÁRA

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Nowadays, in our constantly changing life, the task of grape growers and wineries is to make hedonistic wines of excellent quality. The quality of vintage depends on several factors from which one of the most important element is the variety. Grape belongs to the most valuable fruits from a nutritional point of wiew since its essential vitamins and mineral content contribute to the optimal recommended daily intake. The samples were taken from FVM Research Institute For Viticulture And Aenology, Badacsony.

The mineral content was determined by ICP-OES. Atomicabsorption device was used to soil analysis. Our results clarify that the highest levels of Ca, Mg and Fe uptake could be detected in the cultivar 'Olasz rizling'. Comparing the wines made from different cultivars, it is observed that there were significant differences between their cultivars in the sodium and copper contents.

Although the nutrient supply ability of soils is influenced by a wide range of factors the results of soil analysis may partly give assistance to the designing of the fertilization schedule. Hence the neccessity of basic and subsequent fertilizations can be determined.
Keywords: grape, wine, elements, ICP-OES, atomicabsorption

THE INFLUENCE OF FERTILIZATION ABOUT LYCOPENE CONTENT IN TOMATOES

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ABSTRACT

In this paper was to evaluate the fertilization influence about lycopene content in two sorts of tomatoes cultivated in field conditions, in Romanian west area.

The experience was done in a cambic cernosium soil, with low acidity reaction and the high natural fertility potential favorable vegetables cultivation.

The study was performed on control soil samples (without fertilizers) and soil samples after differentiated NPK fertilization in variable doses: $N_{30}P_{30}K_{30}$, $N_{45}P_{45}K_{45}$, $N_{60}P_{60}K_{60}$, $N_{120}P_{60}K_{60}$. The fertilization doses and the application methods in tomatoes fertilization were to determine in correlations between agro chemistry factors.

A field experiment was using tomatoes samples in different precocity steady: early (Export II) and middle tardy (Ace Royal).

Keywords: lycopene, tomatoes, precocity steady, field, mineral fertilization

In aceasta lucrare s-a urmarit influenta ingrasamintelor asupra continutului de licopen in doua soiuri de tomate cultivate in conditii de camp, in zona de vest a Romaniei.

Tipul de sol pe care s-a amplasat experienta este un cernoziom cambic, sol cu reactie usor acida, cu un bun potential de fertilitate favorabil culturii legumicole.

Cercetarile s-au efectuat pe un sol nefertilizat, precum si in conditii de fertilizare diferentiala cu NPK in urmatoarele doze: $N_{30}P_{30}K_{30}$, $N_{45}P_{45}K_{45}$, $N_{60}P_{60}K_{60}$, $N_{120}P_{60}K_{60}$. Dozele de ingrasaminte si metodele de aplicare pentru ingrasarea legumelor din grupa solano-fructuoaselor se stabilesc conform cu cerintele fata de factorii agrochimici.

In analize s-au folosit tomate in diferite stadii de precocitate: timpuriu (Export II) si semitarziu (Ace Royal)

CARNEA ŞI NEVOIA DE CARNE

THE MEAT AND THE NEED OF MEAT

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Carnea reprezintă un aliment important ce are valoare alimentară ridicată datorită conținutului în proteine, lipide şi substanțe minerale. Lucrarea de față prezintă conținutul cărnii şi calculează, prin două programe necesarul de carne pentru o populație dată.

Keywords: carne, mamifere, păsări

The meat represents an important food which has an important food value because of the content in proteins, lipids and mineral substances. The present work presents the content of the meat and computes, through two programmes the need of meat for a certain population.

Keywords: meat, mammals, birds,

POPULARITY OF MINERAL WATER IN HUNGARY - SECONDARY ANALYSIS BASED ON PRIMARY DATA

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In our study we are presenting the current mineral water consumption habits in Hungary based on primary data of GfK Hungária Market Research Institute by mathematical-statistical analysis. The most important goal of the secondary data analysis performed by an SPSS software package was to reveal the correlations in the popularity of mineral water consumption. Structure-revealing cross-tab analysis of the database concluded that the popularity of mineral water consumption is significantly determined by other product groups' consumption popularity (vegetables, fruits, juices, salads), various social-demographic indexes (type of employment, qualification, age, marital status, settlement size) and eating habit parameters (frequency of eating outside in fast-food chains, in restaurants, frequency of warm lunch).

Key words: mineral water, consumer attitude, consumption popularity, cross-tab analysis, secondary research.

MINERAL WATER CONSUMPTION HABITS OF UNIVERSITY STUDENTS WITH CONJOINT ANALYSIS

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Since the 70's conjoint analysis has been commonly used in practice for analysing a wide range of products. Since then several market and scientific research have proven its efficiency and relevance. Conjoint analysis is an effective method to reveal consumer preferences. It proceeds on the assumption that the consumer tries to maximise utility when purchasing products. Through the method the utility of certain product attributes and the importance of them in consumer decision can be determined; it can also be used to position the product on the market. We have chosen the so-called full profile task to reveal the mineral water consumption habits of university students since the following conditions were met: the target group members are consuming mineral waters, they are aware of the product attributes and in the product features a small number of well-separated utility levels could have been defined. In order to reduce the invaluable (large amount of) potential product versions we applied orthogonal matrix. We proved that the importance of the price is significant in decision making, but it is not the most important factor. The decision was determined primarily by carbonation (35.8%) and by the brand (29.2%). Important factors are the price (14.2%) and promotion games (13.5%). The importance of awards was low (7.4%). The ideal product for university students: sparkling Naturaqua with a promotion games where the grand prize is a car, costing HUF 86 and showing the 'Quality food from Hungary' logo.

Keywords: mineral water consumption, consumer habit, conjoint analysis, full profile task, orthogonal matrix.

THE FEED SELECTION OF ROE DEER (*CAPREOLUS CAPREOLUS*) ON AGRICULTURAL HABITAT IN WINTER AND SPRING

AZ ŐZ (*CAPREOLUS CAPREOLUS*) TÉLI ÉS TAVASZI TÁPLÁLÉKVÁLASZTÁSA MEZŐGAZDASÁGI TERÜLETEKEN

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Roe deer (*Capreolus capreolus*) are Hungary's most common large herbivores. The feeding strategies of roe deer have been examined in many European countries and the researchers have underlined the importance of the plant abundance (TIXIER AND MTSAI, 1997; MÁTRAI AND MTSAI, 1986; FEHÉR AND MTSAI, 1988). The keyfactor of feed is not the quality but its abundance (TIXIER AND DUNCAn, 1996; TIXIER AND MTSAI, 1997; 1998). There is an opinion that the ancient habitat of roe deer used to be green wood and woody steppe. They prefered leafy forests, forest edges and the agricultural cultivated areas which are situated next to them. They rearely occured on big plains without tree cover. Due to the calmness of large-scale agriculture roe deer spread all over the Great Hungarian Plain, afforestation also helped in improving the habitat. The adaptation of roe deer to agricultural environvment was so good that today we separate the forest and plain ecotypes. The two ecotypes have big differences in behavior, relationship and feeding habits (CSÁNYI, 1992).

The goal of my research is to find out more about the differences in feeding habits and attributes related to them. The plant composition of feed depends on the vegetation of the habitat.

The quality of the feed is one of the most important factors, which influence the density of the roe deer population, the body- and antler weight and the reproductive performance not only at young but also at older age groups. The autumn condition of doe (MAJZINGER, 2007) shows the quality of the living area.

In my resarch I am tring to find answers to the following questions:

1. what was the composition of feed by roe deer shot on two hunting territories with different conditions in the autumn-winter and the spring-summer hunting seasons?
2. what kind of effect do the main feed components have on the body mass, and in spring and summer on the antler weight of examined roe deer?

Kulcsszavak: téli és tavaszi táplálék összetétel, őz, *Capreolus capreolus*
Keywords: winter and spring food composition, roe deer, *Capreolus capreolus*

INFLUENCING FACTORS OF GAME DAMAGES IN AGRICULTURAL: DETECTION OF THE OPERATING NEXUS IN A COMPLEX SYSTEM

A MEZŐGAZDASÁGI VADKÁRT BEFOLYÁSOLÓ TÉNYEZŐK: EGY ÖSSZETETT RENDSZERBEN MŰKÖDŐ KAPCSOLATOK FELDERÍTÉSE

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The game damage in agriculture is a frequent phenomenon in Hungary, in Europe and on other continents as well. In Hungary, game damages in agricultural crops came out at about 1,2-1,5 milliard HUF in the last years, which generated a fairly taut conflict between the gamekeepers and the agriculturists. This is a local problem; the 75-80% of the total damages appears in 23% of the country. This means concretely 5 regions, which overlap with the high density red deer and the wild-boar areas. According to the mindset, the big numbers of these game species are blamed for the high damages but there has not been yet any examination, which could underlie this in Hungary. Therefore we analyzed it with statistical methods, if there is any relation between the number of games and the damages, and what kind of other factors have influence on it. We found positive correlation between the number of wild-boar, and agricultural damage, however we can not prove the same concerning red deer. There was no correlation between the frequency of the cultivated plants and the agricultural damage in case of wheat and sunflower, but there was positive relation in case of the maize. Examining the procurement price of these three most important plants, and the amount of compensation for game damages, we have not found any relation in case of wheat, but we detected positive relation in case of maize and sunflower. Our study demonstrated that the agricultural damage depends on several factors. The gamekeepers have no or only a restricted influence on those factors. It is a further question, how effective the big game population control could be to decrease the problem of game damages.

Keywords: human-wildlife conflicts, deer density, wild boar density, procurement price, cultivated plants;
Kulcsszavak: gímszarvas, vaddisznó, vadlétszám, felvásárlási ár, termesztett növény;

THE ECONOMICAL QUESTIONS OF RAW LAND MANAGEMENT

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Most human activities have harmful effects on the habitat of our wild animals and the development of their populations. In order to weaken these effects, hunters and farmers have come up with numerous innovations and introduced several production technologies.
Our 600-hectares game reserve provides excellent conditions of survival for the big games of our country. The quality of the soil is not favourable either, its humus contain is under 1%, its bound structure which is very hard to cultivate makes these fields clayey soil. The different production technologies have been tested in practice for years, because of the continuous change of the production costs we have collected only the demand for material, engine and manpower, and of course the outcome.
During the examination we counted the specific cost of the outcome of different plants, the content of their netto energy and crude protein. According to the results specific costs we can say that grass fields used as pastures have the lowest annual costs.
We have put great emphasis on the examination of the production of different feeds from environmental point of view. In the course of soil cultivation the air polluting effect of the engines put the greatest burden on the environment. That is why we compared the quantity of the fuel consumed with the outcome, the energy and protein content of the fodder plants. On the base of the examination of the specific fuel consumption we can declare that for the production of crude protein and green yield it is best to plant acacia.
The new mixtures that we tested provided continuous rich pastures for the deer. Even in the most serious drought we had germinating pasture components and when the drought was over, the sowings quickly regenerated. The condition of the stock did not decline, the horns of the stags brought down had more specific weight than earlier.
When analysing the raw land management of the game reserve in Bőszénfa we can come to the evident conclusion that planting annual plants, especially grass communities with papilionaceae is much more economical than dealing with perennials. This way we can reach even 15-20 % cost-effectiveness, while our farming becomes simple and clear.

IMPORTANCE AND ROLE OF MULTI-FUNCTIONALITY IN POND FISH FARMING IN HUNGARY

A MULTI-FUNKCIONALITÁS SZEREPE ÉS JELENTŐSÉGE A MAGYARORSZÁGI HALTERMELÉSBEN

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Pond fish farms, which are a part of the rural economy, also function as valuable aquatic habitat, play an important role in water and landscape management, provide services for various recreational activities, and contribute to the preservation of the cultural heritage. The majority of the pond farms in Hungary do not meet all the basic functions of multi-functionality, but the number of pond farms attempting to utilize all aspects of multi-functionality at the enterprise level is expected to grow in the future. The experiences with the operation of multi-functional fish farms clearly showed that the diversification of activities could be a promising alternative during the development of sustainable pond fish farming in Hungary. There is a need however for better understanding of the specificities of multi-functional pond fish farming and the inter-linkages between various functions which requires well-defined research programs. There is also need for appropriate regulation which should include compensation for damages caused by protected animals, appropriate support for ecological services and appropriate water charges. Multi-functional pond fish farms can contribute significantly to the improvement of rural livelihood and the maintenance and enhancement of biodiversification if the social and environmental benefits of multi-functional pond fish farms are well acknowledged and supported.

Keywords: multi-functionality, sustainability, pond fish farming

CURRENT ISSUES OF THE HUNGARIAN MAIZE MARKET

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In 2004-2006 the Hungarian maize-yield were prominently big, more than 8 million tons. The main cause was the intervention system, what means economic stability for the farmers.

The main goal of intervention system is the insurance of a minimal price level; it is below the market price. Between 2000-2006 years this price was 101, 31 euro per ton. The intervention period holds on from 1st November to 31st May, and the price concerns the all maize.

Any owner of goods – farmer, purchasing agent and vendor - may make propose to sell the maize, on condition that its quantity is over 80 million tons. The members of EU may determine other minimal quantity, for example, in France it is 500 million tons. The EU is in possession of the grain-store, that's mean the stock may sell by competition.

The grain intervention system was worked out for EU-15, and until 2004 year, it worked right. The problem was caused by the new members – some of them was traditionally maize-exporter (e.g.: Hungary) – so, they offer their stock, and because of it 5,6 million tons maize accumulated in the intervention store (Table 1.).

Table1. Grain-store in February of 2007.

Grain	EU-27	Hungary	Share of Hungary (%))
	million tons		
Maize	3.94	3, 89	98,7
Wheat	2,04	0,26	12,7
Other	0.50	0,02	4,0
All	6,48	4,17	64,4

Source: EU-INFO (www.eu-info.hu)

The European Parliament has voted the gradual termination of the intervention for maize. They justify their decision with the difficulty of selling of the gigantic accumulated maize-quantity. In 2007, because of the poor crop, shortage of goods and high price has grown up. Hungarian farmers have a share in keeping the maize-stock in Hungary.

Nowadays the solving of the maize-problem may be the bio-ethanol-production. In the USA the maize-cultivation has grown year by year. Because of it the using for industrial purposes – especially for bio-ethanol is grow too. In our time the 30% of the maize-store is used for ethanol-industry, in their 112 factories. The using of alternative energy in the EU is important problem too. The main aim is the 20% share of the road traffic in 2020.

HOW TO UNDERSTAND GAME IN LOGISTICS PROCESS

A VADHÚS LOGISZTIKAI FOLYAMATÁNAK ÉRTELMEZÉSE

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Planned, checked and controlled economical processes are more and more important. People start to know, treasure of nature – wild animals of fields and forests – are limited to use, therefore unlimited shooting, chaotic using of them cause are danger about feeding chain and ecological balance. It is not permitted to hunt for feeling only or illegal shooting make process cannot turn back. Planned, managed and well-organized game production is necessary, in which logistics is a tool.

ÖSSZEFOGLALÓ – A vadhús logisztikai folyamatának értelmezése
A tudatos gazdálkodás kívánalma egyre szélesebb körben nyer teret. Eljut az emberek tudatáig az a tény, hogy a természet adta kincsek – jelen esetben az erdők-mezők vadállatai – sem állnak korlátlanul rendelkezésünkre, így mértéktelen kilövésük, pazarló, átgondolatlan felhasználásuk veszélybe sodorhatja a táplálkozási láncot, majd az egész ökológiai egyensúlyt. Nem szabad, hogy a zsákmányszerzés élménye vagy az orgazdaság olyan károkat okozzanak, melyek visszafordíthatatlan folyamatokat eredményeznek. Tudatosan tervezett és szervezett, a vadhúst minél nagyobb arányban hasznosító folyamatokra van szükség; ebben segít a logisztika.

Keywords: game, logistics, checked process, food safety, quality
Kulcsszavak: vadhús, logisztika, ellenőrzött folyamat, élelmiszerbiztonság, minőség

INTEGRATED SUPPLY CHAIN MANAGEMENT IN PORK PRODUCTION

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Meat industry in Hungary is one of the greatest losers of joining the European Union since expansion of import of meat and meat products in the structure of foreign trade has exceeded expansion of export by almost ninety percent. Primary production which was dominant in the early nineties was getting into background from year to year. The purchase price of pigs was lower by 11 percent in the first seven months of the previous year than in the same period of 2006. Per farm pig number of companies increased, while it decreased in private enterprises. Within this issue, enterprises constituting the pork product chain have to face some special and complex challenges starting from the supplement of basic materials to the products' arrival to the domestic or foreign customers.

Supply chain is such network of organisations which comprises processes and activities that create value as a product or service for consumers. Strategy of development requires consideration and action resulted from our specialities, opportunities, capabilities, closer and far objectives. In order to that program can be sustainable for long time production indicators serving for efficiency, the harmony of biological, ecological and economic factors as the basis of production should be improved.

Superior position allows of redistribution of income hereby it turns pork product chain from its optimal growth path inhibited expansion of competitiveness. Large-scale opening of agricultural disparity of prices has also affected which has caused significant redistributions of income between agricultural enterprises and suppliers. According to key factors, the three determinant parts of Hungarian pork market, such as the agrarian, industrial and trade sectors are analysed. Qualities and problems connected to the theme are taken into consideration within each sector, then, the state of relationships among sectors and direction of development are to be discussed.

COMPUTER-BASED SIMULATION OF AGRICULTURAL PLANTS

MEZŐGAZDASÁGI ÜZEM SZÁMÍTÓGÉPES MODELLJE

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The long time-used simulation types and -methods in the industry are giving permanently helpful informations for the managers to manage the production processes in acceptable quantity and quality. There are some special fields (machine planning and developing for example) where the simulations are as correct and exclusive, that no production process can be started without a complete detailed simulation.

The agricultural production processes are so heterogeneous that a simulation of the whole process is hard to adapt. The reason is clear: working with biological organisms and production processes which are bounded to uncontrollable environmental factors means always a higher risk. But that is the point at all. This higher risk and the managers who have to work with that conditions are claiming correct simulations.

The specialties of the agricultural systems make more difficult to use the simulations which are used in the industry. This specialties can be collected around six key-factor:

1. Question of agricultural doubtfulness
2. Too less or too much information
3. Calculated information distortion
4. Efficiency of the rational decision-maker and the complex system of the goals
5. Heuristic decisions
6. Fuzzy character

As shown by the key-factors the construction of a good modell is not easy. But there is a simple method to handle the different and uncontrollable factors. Every process in the production means a conversion. There is a start-up status, the production process is using energy, material and living-work, pledgeing resources, generating costs. Every process can be described by this way including the smallest detail which plays the smallest role in the production process.

This new way of construction of agricultural models can give as accuracy and efficiency as in the industry used models. As the processes are correctly described, the simulation can follow the real production process, or can simulate any changing of the process, or the used resources to show results of the production or results of a malfunction or change of an environmental factor.

THE EXAMINATION OF THE NATIVE CROPPERS' TAXATION

MEZŐGAZDASÁGI ŐSTERMELŐK ADÓZÁSÁRA ÉS JÁRULÉKFIZETÉSÉRE VONATKOZÓ SZABÁLYOK VÁLTOZÁSÁNAK VIZSGÁLATA

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The regulation concerning native croppers came into effect on 1st January 1997. Farmers having a native cropper's certificate are charged favourable taxes, fees and contributions. The native croppers are free to choose the most suitable payment facilities one out of the three taxation forms (flat rate taxation, itemised expenses account, and 10% expense flat rate). They need to be aware of the possibilities provided by the law in order to make a good decision, and also they have to know the limits of the proceeds and the effects of the changes on their production.

Kulcsszavak: őstermelő, adózási mód, kedvezmények, járulékfizetés, adószám.

Keywords: native cropper, taxation form, payment facilities, paying fees and contributions, tax number

EU ECONOMY ANALYSIS

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EU economy analysis – is an analysis of EU-27 economy based on macroeconomics indicators (gross national product, internal consumption, inflation and unemployment) and indicators from agriculture in 2004, using sources from European Report Commission – 2005for EU-25 and Romania.

Keywords: economical evolution, analysis, indicators.

SOME RESULTS IN MARKETING RESEARCHES

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These results are from a personal study realized in Timişoara concerning agro-alimentary consumption, the characteristics that influence the behavior of the consumers and the intensity of this influence.

The study of the consumer's behavior can be realized in different ways, but from the practical activity point of view we appreciate that the quantitative and qualitative approach is more operational and more pragmatic.

Keywords: consumer, consumption, consumption evolution, marketing researches

JUSTIFICATION OF AGRICULTURAL SUBSIDIES IN RESPECT TO THE THEORY OF MARKET FAILURES

A MEZŐGAZDASÁGI TÁMOGATÁSOK INDOKOLTSÁGA A PIACI KUDARCOK ELMÉLETÉNEK TÜKRÉBEN

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The issue of agricultural subsidies regularly preoccupies politicians and economists alike. Sustained interest in the topic is explained by the fact that in declining welfare states taxpayers question the need for agricultural subsidies with increasing frequency and demand professional and convincing arguments.
For a long time farm subsidies were justified by referring to the special features of agriculture. While these features (production subject to the vagaries of weather, long growth cycles, the organic and perishable nature of products, etc.) do exist, a growing number of people question whether these provide sufficient economic rationale for continued support.
Today a number of schools, defining themselves in opposition to classical, neo-classical and new-classical theories, deal with the option and necessity of government intervention. Most of these schools agree that subsidies distort market conditions, although if subsidies are disbursed with the intent to forestall or remedy market failures they see such policy as justified. This concept is represented most consistently by adherents to the theory of market failure. In the present paper I shall attempt to determine which events under the theory qualify as market failures characteristic of agricultural activities, and what role subsidies should be allowed to play in managing these events. Such market failures include (1) monopolic, oligopolic, monopsonic and oligopsonic market conditions, (2) the existence of positive externals that may be defined as public goods, and (3) the risk-based deficiencies of incomplete markets.

Kulcsszavak: agrársajátosság, biztosítás, közjószág, piaci kudarc, tökéletlen piac

APPLYING GIS AND REMOTE SENSING TECHNIQUES AT THE IMPLEMENTATION OF THE EU AREA BASED SUBSIDY SYSTEM IN ROMANIA

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The aim of the study is to make researches on pilot areas to be able to decide the detailed techniques how the remote sensing control can be managed with the use of the Land Parcel Identification System (LPIS) as the GIS reference system on way, witch is the most suitable for the needs of the Integrated Administration and Control System (IACS) in Romania. The results will help to clarify for the administration how the GIS databases and interactions could be managed in IACS including activities based on remote sensing. Theoretical decisions must be made during developing the IACS GIS can be supported based on the lessons learned from the implementation of the pilot projects of LPIS and remote sensing control.

Area aid claim management means the full IACS annual workflow, starting with the preparation of the application dossiers, handling the claims, data processing, controlling on administrative and on-the-spot way, and executing the payment. During the CwRS the crop type can be defined and the area of an agricultural parcel can be measured based on time series of multi spectral satellite images, with different resolution. A very high resolution (pixel size is smaller then 1.5 meters) satellite image is always used, for measuring the area. The advantage of this high level technical solution is, that compared to the needs of the on-the-spot measurement, it is cost effective, time saving, also objective and deterrent and the processing is independent form the time. The method is fully accepted and supported by DG AGRI because well documented and objective, and on the other hand, it is rather easy to manage for a paying agency. The GIS in the IACS should facilitate the geographical identification of the agricultural parcel, with the support of the identification procedure used by the farmer at the declaration stage, and helping the administration with spatial data and database handling to reach transparency. The GIS should manage the agricultural parcel that is in any case reflected in the standard, alphanumeric part of the IACS database.

The following results and technical conclusions based on mainly the pilot studies the are defined:

- The functions of the LPIS in the IACS-GIS and the use of the LPIS by the farmers and by the administration is defined
- The structure of the area aid declaration and the parcels related CwRS code system developed includes the implementation of the new agricultural parcel definition according to article 2 (1bis) of Commission Regulation (EC) No. 796/2004. The importance of the cluster map during the interpretation process was approved.

Keywords: area based subsidies, Integrated Administration and Control System, Land Parcel Identification System, control with remote sensing,

CONVERGENCE PROGRAMMES OF HUNGARY IN THE NET OF POLITICS

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According to the Treaty of Maastricht only those member states can join the zone of the common money which meet the so-called requirements of Maastricht of which Hungary has not met even one since our joining the European Union. Besides, up to the autumn 2006 we got away from the time of its introduction planned by 2007. In 2002 fulfilment of requirements regarding inflation seemed to be the most difficult one. In addition it appeared rational to reduce deficiency in the state budget under 3% by 2004, in spite of the fact that the balance of the so-called „two-year budget" for 2001 and 2002, calculated by FIDESZ, showed significantly bigger deficiency compared to what had been planned, because of the parliamentary elections in 2002. Since FIDESZ, in the case of getting in the election, from the autumn 2002 would have driven the budget to the state of equilibrium with tough restrictions – even in the first year of its four-year government, adjusting to the economical and political logic of the election-periods.

It would have made possible for Hungary to meet the requirements even in the first, so in 2004, convergence programme and after a two year-long period, in 2007 – after the parliamentary election of 2006- to introduce the euro together with Slovenia. However, inspite of the predictions FIDESZ lost the election in 2002, and the MSZP-SZDSZ-government, led by Medgyessy, Péter, started to fulfil its promises made during the election which burdened the state budget heavily. This way not only the deficiency aims of the year 2003 but the ones between 2004 and 2006 became illusions. In its convergence programme of 2004 the government pledged itself to reduce both deficiency regarding GDP and the burden of taxation with a half per cent. However, it could not have been fulfilled in spite of the restrictions in the budget. The Union did not accept the programme of 2005 but regarding the tense internal situation and the elections of 2006, permitted delay. The winner MSZP-SZDSZ coalition, led by Gyurcsány, Ferenc, elaborated –even before the municipial elections in the autumn 2006-its programme which includes an extremely serious tax-rise and reduction of expenditure in the state budget, and its significant part was immediately introduced. The most important elements of the programme are the reform of public health and taxation system. On the basis of what has been experienced so far in the execution of the programme it seems that the population and the political opposition tolerate better the significant increase in the already existing taxes, dues and attributions than introduction of new ones which may bring much smaller burden, anyway. On the bases of these experiences, even before the elections of 2010, the daily fee in hospitals and the visit fee will be ceased, the tax on property will not be introduced, and the government will compensate the reduction of attributions in the case of enterprises with the rise of VAT.

THE EXAMINATION OF SETTLEMENT FUNCTIONS IN THE HÓDMEZŐVÁSÁRHELY MICRO-REGION ACCORDING TO THE INSTITUTIONAL PROVISION

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The presentation is about the examination of settlement functions in the Hódmezővásárhely micro-region in order to define the role of each settlement in the settlement network-system of the micro-region. During the hierarchy-examination – applying the so-called inventory method – I considered the provision of urban – or in some cases village – institutions, their presence and their quantitative data regarding each settlement. I groupped the institutions according to their functions, and this way I formed seven groups: jurisdiction and law enforcement; education and culture; healthcare and social services; leisure and sports activities; commerce and hospitality; public administration, authorities and offices; enterprises, financial institutions and economic chambers. According to the result of the examination it can be ascertained that Hódmezővásárhely has the institutions that provide all the examined settlement functions, while the other town of the micro-region, Mindszent has only the half of them. For the villages of the micro-region – Mártély and Székkutas – the bigger part of the services is available in the towns, since their institutional provision is at low level and it is not numerous enough, as well. The conclusion can be drawn from the examination is that in micro-regional level functions provided by the examined institutions are available for the population, since Hódmezővásárhely, as the central settlement of the micro-region, makes the utilization of services provided by the examined institutions possible for its population and its surroundings.

ÖSSZEFOGLALÓ – A Hódmezővásárhelyi kistérség településeinek funkcióvizsgálata az intézményi ellátottság tükrében

Az előadás a Hódmezővásárhelyi kistérség települései által ellátott szerepkörök vizsgálatával foglalkozik, annak céljából, hogy meghatározzam az egyes települések szerepét a kistérség településhálózati rendszerében. A hierarchia-vizsgálat során – az ún. leltározó módszert alkalmazva – tételesen számba vettem az egyes települések városi – s néhány esetben falusi – intézményekkel való ellátottságát, azok jelenlétét és mennyiségi adataikat. Az intézményeket az általuk ellátott feladatköröknek megfelelően csoportosítottam, melynek alapján hét intézményi csoportot alakítottam ki: igazságszolgáltatás és rendvédelem; oktatás és kultúra; egészségügyi és szociális ellátás; szabadidő és sport; kereskedelem és vendéglátás; közigazgatás, hatóságok és hivatalok; vállalkozások, pénzintézetek és gazdasági kamarák. A vizsgálat eredménye alapján kijelenthető, hogy Hódmezővásárhely minden vizsgált települési funkciót ellát, ezzel szemben a kistérség másik városa, Mindszent a vizsgált intézmények csak mintegy felével rendelkezik. A kistérség falvai – Mártély és Székkutas – alacsony hierarchiaszintű és kevésszámú intézményi ellátottságuk miatt a szolgáltatások nagyobb részét városokban veszik igénybe. A vizsgálatból kiderül, hogy kistérségi szinten minden lakos számára hozzáférhetőek a vizsgált intézmények által ellátott funkciók, hiszen Hódmezővásárhely, mint a kistérség centrumtelepülése, lakossága és környezete számára lehetővé teszi valamennyi vizsgált intézményhez kapcsolódó szolgáltatás igénybevételét.

THE ROLE OF THE POPULAR MARKETS ON THE UPPER-BATCHKA BETWEEN THE TWO WORLD WARS

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The natural borders are at water-parting, the artificial borders were mainly draw at water-collecting areas, which ranks the same looking areas two sides into different political and social organisation. It divides areas that were connected with their nature, economy, culture, social life and politics. The communities with their own rules bad to reorganize their strategy by this. We can get individual, community and state answer for these challenges, and the spirit of the answer can be political, economic or social. I tried to introduce a constitutional action, economical answer in my study, that is given by the area of Upper Bácska divided with artificial border – the settlement of Jánoshalma - for the questions given by the Trianon Peace Dict. The changed areal, economic, social relations made their own claim as their inner limit and the narroved down economic area, the market loose caused by the Great Power decision as their outer limit. With their own market setting principle and market institutions – typical between the two areas – different economical and social principals and – in the meantime – market-looser participants and their goods to step into international markets by stepping over the Trianon borders and the successor states, so that to give an economic answer for the political challenge.

ON THE RESEARCH METHODOLOGY IN THE FIELD OF RURAL DEVELOPMENT

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The problem of assessing sustainable agriculture multidimensionally implies a complex approach resulting from both sector and space interferences and from the difficulties related to the quantity and quality assessment of aspects characterising the sustainable development of the rural area. Starting from the present discrepancies and disparities between rural areas, research within the project „Complex models and methods of research in Romania's sustainable rural development" shall be the ground for the development of a complex model of rural and regional development. This approach shall allow both the approach of the problems related to the policies of balanced and sustainable development of the rural area and the diminution of the impact of current agricultural practices on the environment and on landscape conservation. In order to assess the impact of the divergences between agricultural practices and ecological requirements, the main objectives of the project are the identification and development of a set of agricultural and environmental indices compatible with the indices defined at European level, their testing on the ground of a pilot questionnaire, and the development of a methodology of monitoring and analysis of the way ecological components meet sustainable agriculture development policy components, as well as the development of a rural development model locally and regionally. The project shall also supply methods of delimiting unfavoured areas, areas in full economic and social desertification and backward areas, and shall suggest solutions for development.

Keywords: sustainable rural development, indices, questionnaire, economic reconversion, rural development model

TERRITORIAL FEATURES OF EMPLOYMENT IN THE MICRO-REGION HAJDÚVÖLGY

A FOGLALKOZTATÁSI VISZONYOK TERÜLETI JELLEMZŐI A HAJDÚVÖLGY MIKROTÉRSÉGBEN

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This study is aiming to describe what steps the settlements of the micro-region Hajdúvölgy –Csanádapáca, Csorvás and Gerendás-, in the region Orosháza, Békés county have made to keep their population. This area of the Great Plain, which is famous for its economy of agrarian character, has had difficulties in managing challenges caused by the economical and political changes since the change of the political system. The altered agricultural ownership, decrease in the employment ability of this sector have induced significant changes in the living standards of the inhabitants of villages. These negative processes can be experienced in decrease of population, decrease in the number of the unemployed and in the strenghtening of migration.
Regional develpoment can be achieved by the establishment of new workplaces which cannot lack the active participation from the side of settlements. I am outlining one of its exemplary model through the cooperation of three settlements in Hajdúvölgy which share a common history, similar identity and similar social, political and economical culture. In consequence of the measurable decrease of income-producing force of this sector the population that lived on traditional culturation of plants and livestock raising has partly lost its workplace, on the other hand it is forced to work far from its domicile; the young mobile population leaves its birthplace choosing the urban way of living, or commuting it becomes estranged towards its original environment. Municipal and civil organizations of the micro-region have joined their forces to stop, moderate migration, to strengthen the population-keepeing force of their settlements, and finally to find a solution to their common problem together. Firstly, the micro-region Hajdúvölgy formed the AVOP Leader action-group in the hope of obtaining national and EU-sources; secondly they regard the change in agricultural production profile and village tourism as a solution to their problems. They obtained the cooperation of both civil organizations and private businesses for their aims. Only their realisation remained to be done.

The writer of this study strongly believes that village regions and thus the rural way of living have not disappeared yet for the society. There must be a solution to save villages even in the frame of the global world and integration. Cooperation, as several times in history, can bring such solutions that make rural areas more attractive again.

Keywords: to keep population, employment, regional development, migration, village tourism

RURAL DEVELOPMENT CHALLENGES IN ROMANIA AND THE ECONOMICAL KNOWLEDGE SUPPORT

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The Romanian rural is dominated by agriculture and the primary sector has numerous structural issues originating in the pre-accession policy support measures and a slow reform process. Among these issues we identify a fragmented agriculture, obsolete technologies, absence of a legal status for farms, rural population barriers in approaching the development programme and previous unfavourable experiences. Under these circumstances the National Rural Development Programme still not approved by the European Commission will face a number of challenges for its measures and axis. Transversal to all these measures the economical knowledge required to apply and implement the measures is critically missing at the applicants. Analysing the available sources of knowledge a number of actors were identified with the possibility to fast-forward the development by joining a network. As market seems unlikely to such multi-players network, parallel developments are taken into account. To conclude, all these potential developments are favourable to the rural actors demanding support to implement the foreseen measures.

Keywords: rural development programme, challenges, economic knowledge support, extension | program de dezvoltare rurala, provocari, sprijin prin cunostinte economice, consultanta

REZUMAT PROVOCARI ALE DEZVOLTARII RURALE IN ROMANIA SI SPRIJINUL PRIN CUNOSTINTE ECONOMICE

Ruralul romanesc este dominat de agricultura si sectorul primar are umeroase problem de natura structural cu originea in masurile de politica de sustinere din perioada de pre-aderare si din procesul de reforma lent. Dintre aceste problem am identificat o agricultura fragmentata, tehnologii invechite, absenta unui statut juridic al fermelor, bariere in calea populatiei rurale in abordarea programului de dezvoltare si experiente anterioare nefavorabile. In aceste circumstante Programul National de Dezvoltare Rurala care nu este inca aprobat de Comisia Europeana va trebui sa faca fata unui numar de provocari pentru masurile si axele prezentate. Transversal tuturor acestor masuri, cunostintele economice necesare solicitarii/aplicarii si implementarii masurilor lipsesc in mod critic la nivelul aplicantilor. Analizand sursele de cunostinte disponibile am identificat un numar de actori cu posibilitatea accelerarii dezvoltarii prin aderarea la o retea. Intrucat piata pare putin probabil favorabila unei astfel de retele multi-actori, am luat in considerare dezvoltari paralele. Pentru a conclude, toate aceste dezvoltari potentiale sunt favorabile actorilor rurali ce solicita sprijin in implementarea masurilor avute in vedere.

RESULTS OF COFERMENTATIONAL EXPERIMENTS IN THE AIM OF ENERGY PRODUCTION

ENERGIA TERMELÉS CÉLJÁBÓL VÉGZETT KOFERMENTÁCIÓS KÍSÉRLETEK EREDMÉNYEI.

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The challenge of this days for the actors of the economy and us the agriculture is to increase the profitability of the production, and certainly to preserve the vitality of the agriculture and the rural life in a sustainable way. The utilisation of the renewable energysources of the waste management and the treatment of the hazardous materials and the energy purposed utilisation of agricultural mainproducts and byproducts might be the goal of these two aims. The anaerob fermentation as the mean of the waste utilisation can be profitable in the long term under precisely defined conditions, if every individual application should need grounding with well represented experiments in industrial size in advance. I present in my article the first experiences, measurements in our just installed laboratory.

Kulcsszavak: gazdaságosság, szerves hulladék, biogáz előállítás

GREEN INDICATORS: SUSTAINABILITY OF RURAL DEVELOPMENT

ZÖLD INDIKÁTOROK- AVAGY FENNTARTHATÓ- E A VIDÉK FEJLESZTÉSE?

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Sustainable development is defined as a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Definitions of sustainable agriculture and rural development are generally concerned with the need for agricultural practices to be economically viable, to meet human needs for food, to be environmentally positive, and to be concerned with quality of life.

The New Hungary Rural Development Strategic Plan (NHRDSP) consist of the strategic frame of the Hungarian rural development program between 207- 2013. The NHRDSP is in line with the Lisbon strategy and Goeteborg principles and tries to bridge sustainable development with rural development. This document states the aims and measures of Hungarian agriculture ad rural development. All the measures are evaluated by indicators. Indicators regarding the environment or presenting sustainable development are tight in the document in spite of the importance: give information for decision makers, help to develop applicable policy and give feedback for the policy. This study presents the measures set in the NHRDSP and green (sustainability) indicators regarding the measures. Beside applying green indicators presented in the document, improvement of sustainability indicators are desirable in order to promote and realize sustainability in rural development. The method of collecting, assessing and evaluating data is not mentioned in the document. It des not mention publicity or how decision- makers will be informed about results of the targets stated in the plan.

During the process of elaboration of rural development policies we must focus on beside the three aspects of sustainability (as ecology- economy and society) global values. Beside the mentioned lacks of the plan it tries to focus on sustainability considering the EU guidelines. Measuring sustainability by green indicators, which are in line with the priority of sustainable (rural) development, can contribute to the social-ecological process characterized by the fulfillment of human needs while maintaining the quality of the natural environment indefinitely.
Kulcsszavak: környezet, gazdaság, társadalom vidékfejlesztés, indikátorok

Keywords: ecology, economy, society, rural development, indicators

APPLICATION OF A NEW METHOD IN COMPILATION OF A SETTLEMENT MONOGRAPH

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This study is aiming to describe the methodological background of the future work „Monograph of Mezőhegyes". During my research work I studied a great number of literature. I examined that in each monograph how the writers pay attention to the connection among the four spheres (social-, economical-, infrastructural-, and natural spheres), what methods they use, what their sources were, how their work is built up, and finally, how my monograph will fit into the other monographs. In the study we can see that there are settlement monographs that empahises the etnographical elements. Monographs of Vereb (FÖLDES 1937) and Rákospalota (SZABÓ-STRAUCH 1927) are like this. Certain volumes of the series „Monograph of Hungarian Towns"- Szeged (KISS-TONELLI-SZIGETHY 1927), Nagykanizsa (BARBARITS 1929, Makó (LADÁNYI 1929) and Baja (RAPCSÁNYI 1934)- have a similar structure. Description of the natural-, social-, economical-, and infrastructural spheres can be found in them but they do not explore, analyse the causal relations. These works are of descriptive nature, „actually, it is a data base for the future, a source for a forthcoming historian" (LADÁNYI 1929:7). We can mean by this for example, the name lists by trades in the social part. The significant turning-point, which was considered at the time of compilation of certain volumes, was the World War I. It has important role in the monograph of Makó (LADÁNYI 1929). RAPCSÁNYI regarded the political and military events as guiding principles in the monograph of Baja. He strived to compile a „historical document" (RAPCSÁNYI 1934:4). The close connection between the natural and social spheres were taken into consideration by BOGNÁR in „Settlement geography of Pápa" (BOGNÁR 1943) and by TÓTH in „Mezőberény, the town that seeks its place" (TÓTH 1980). BOGNÁR already used the expression „cultural region" in 1943.

The new monograph of Mezőhegyes will fit into the mentioned works in its structure but it will differ in its method. I am describing its planned structure, as follows. It will begin with a historical outline. The first historical period will describe the events from the foundation of Mezőhegyes to Trianon, the second one will study the period between the two world wars, and the third one will cover the events from the second world war to the change of the political system. The main part of the monograph will treat the data from the big political change to 2006. It will be followed by suggestions regarding the future, and finally, I will examine the changes in areal connections of Mezőhegyes. It is similar to the other settlement monographs so far. What will the difference be? I will study each stage with the help of the tetrahedron-model (TÓTH 1997), examining that how a change in any sphere will alter the other three ones. Consequently, it will not be a work of descriptive nature but it will show the system of connections among the spheres. In the period between the change of the political system and 2006 each sphere will be examined in details, analysing census data and other KSH data, as well.

ENSILAGE OF WILTED LUCERNE TREATED WITH DIFFERENT TYPES OF BIOLOGICAL PRESERVATIVES

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Lucerne is one of the most valuable protein-feedstuff of Hungary. 60-65% of the lucerne is consumed by farm animals as fresh forage or hay, while the remaining 35-40 % is used for production of haylage or silage. The dry matter and fermentable carbohydrate content of lucerne are relatively low at harvesting. Besides, its buffer capacity is high because of the high protein content and cation concentration. Due to these facts lucerne belongs to the food that does not easily fermentable. For its ensilaging additives are frequently used. Recently biological additives containing lactic acid bacteria have been used.

In the experiments the basic row material was originated from 2nd cut lucerne. The lucerne was cut with rotation scythe in the mid of blooming/early flowering maturity. The chopping was carried out with Jaguar-chopper. The chop length was 2-4 cm.

Treatments:

T0 Untreated control

T1 *Lactobacillus plantarum* + *Pediococcus pentosaceus* (9,1 x 10^{10} CFU/g inoculant) 1 g/ 1 tonne wilted lucerne

T2 *Lactobacillus pentosus* DSM 14025 (1 x 10^{11} CFU/g inoculant) + *Pediococcus pentosaceus* DSM 14021 (2,5 x 10^{10} CFU/g inoculant) 1 g/ 1 tonne wilted lucerne

T3 *Lactobacillus pentosus* DSM 14025 (5 x 10^{10} CFU/g inoculant) 2 g/ 1 tonne wilted lucerne

In each treatment small sized containers of 4.2 l cubic capacity closed by screwed hat was used. The filled micro containers were stored for 100 days. The containers were opened on the 1st, 2nd, 3rd, 6th, 14th and 100th days following the day of ensilage.

At the time of ensilaging the characteristics of ensilaged row material was similar to that of lucerne at stage of early flowering maturity medium wilted (45 % DM).

The initial fermentation was the strongest by T2 treatment. The highest level of lactic acid production was detected during 6 days of fermentation comparing to other treatments. The T3 treatment increased the lactic acid production from 2nd day to 6 day effectively. The lactic acid production of T1 treated lucerne was slow on the first 3 days of fermentation, but was higher than the untreated control on the 6th day. Significant differences were found between the inoculants treated lucerne silages in pH, and ammonia content compared to each others, and definite difference was found to the control. The carotene content of T3 treated lucerne silage was significantly higher compared to the control. There were some differences between fermentation products and nutritive values of silages but they were no significant. The carotene loss was less in treated silages and considerably less with *T3* treatment. All silages remained stable on 7 days aerobic conditions.

ALTERNATÍV VADFÖLD-GAZDÁLKODÁS A TENKES- HEGYEN

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Magyarországon a racionális vad-és vadföld gazdálkodás alapvető fontosságú, hiszen nagyon nagy vadállománnyal rendelkezünk ám hazánk területén már nem élnek, olyan nagyragadozó fajok, amelyek elvégeznék a szelekciót és az állomány szabályozását. Ezek a feladatok tehát a vadgazdákra hárulnak.

A területek természetes vadeltartó képessége felborult, a vadak egyre többször jelennek meg kultúr-veteményekben. Ezért van szükség a vadföldek segítségével tápanyag kiegészítést biztosítani az állatok számára, ezzel mérsékelni a károkat, mivel az állatokat távol tudjuk tartani a szántóföldektől.

A földtulajdonosok és földhasználók igényei: A gazdálkodók igénye természetesen az lenne, hogy a vadkár mértéke minél kisebb legyen, lehetőleg ne haladja meg az 5%-ot. A gyakorlatban azonban 10-15%.-os vadkár keletkezése általánosnak mondható. A cél tehát ennek csökkentése lenne.

A vadgazdálkodók és vadászok igényei: A vadászok igénye is a vadkár 5% alá való csökkentése lenne, hiszen a vadász társaságok számára a vadkárok minden évben súlyos anyagi terheket jelentenek.

*A vadállomány igénye:*A vadállomány igénye, pedig olyan szántó és gyepterületek (vadföldek) kialakítása illetve fenntartása, amelynek fő célja a vadállomány takarmány-igényének változatos kielégítése vagy kiegészítése az év minden időszakában.

A Tenkes- hegyen a természeti adottságok miatt nincs jelentősebb vadföld-gazdálkodás. A hegyet szinte teljesen egybefüggő erdő borítja a hegységelőtéri területek pedig már mezőgazdaságilag művelt területek.

Megoldási javaslat - *Vadföldsávok kialakítása* olyan takarmányokkal, amit a vadak legalább annyira de inkább jobban kedvelnek a táblán vetett kultúrnövénynél. (Nagyvadas területen alkalmas növények például takarmány búza, takarmány árpa, zab, silókukorica, kukoricacsalamádé, takarmánykeverékek, lucerna, stb).

A vadföldsáv két részből áll. Az erdő melletti vadtakarmány-veteményből, majd az azt követő kilépősávból, amely kaszált, nem vetett terület. Költségmegtakarítási szempontból olyan, szélességben alakítsuk ki a sávokat, hogy a rendelkezésre álló gépünk egy menetben tudja kezelni azt, valamint a kilépősáv legalább olyan szélességű legyen, hogy az állatok ne érezzék biztonságosnak a rajta való átkelést. A művelési költségek változásának, a várható terméskiesés-csökkenésének, valamint a termőterület méret-változásának összevetése az alábbi eredményt hozta egy vizsgált (kukorica) táblán:

	Termőterület mérete [ha]	Vadföldsáv mérete [ha]	Terméshozam [t]	Terméskiesés vadkár miatt [t]	Bevétel [eFt] (átlagár 30000Ft/t)
Vadföldsáv nélkül	25	0	200	(12%) 24	5280
Vadföldsávval	23,805	1,195	190,4	(5%) 9,52	5426,4

ACTUAL SITUATION OF LIVESTOCK TRANSPORTATION IN HUNGARY

AZ ÁLLATSZÁLLÍTÁS HELYZETE MAGYARORSZÁGON

BÉRES ANNAMÁRIA ÁGNES – JÁRVÁS KATALIN – JANBAZ JANAN

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The objective of this article is to demonstrate the situation of livestock transportation in Hungary, especially the transit trafic of this kind.

Hungary has a definitive role in international livestock transit. As the records made by the border guard and the authors of this article show, most of this transit livestock enter from Poland, Belarus, Czech Republic, Slovak Republic, Lithuania, Romania and Serbia, then leave towards the slaughterhouses of Italy and Greece.

With the European Union the member countries' borders broke up as the opportunity to control livestock trafic as well. Currently two control stations exist, one in Záhony (Ukraine-Hungarian border) and one in Röszke (Serbian-Hungarian border) where the incoming and outgoing transfer can be controlled. The rest of the border is controlled with mobile control stations, operated by the border guard (part of the police from january, 2008) and the national animal wellfare authority, and make random supervisions on livestock transfer. As the authorities explain, the efficency of this work is not satisfactory.

The staging points, where the animals would have to be rested during their transfer (as it is stated in law) have further importance. Hungary has three staging points registered in the EU register, in Rédics near the Hungarian-Slovenian border and in Magyarcsanád and Nagylak near the Hungarian-Romanian border.

It's disturbing that livestock transport through Hungary has increased till the joining into the EU, but the number of properly rested – and thus controllable – transfers decreased.

The authors of this article think that a full record of livestock transport is necessary, wich covers the whole country and is controlled by the border cross points, this way giving a clear sight on the livestock transit through Hungary. This record would be the base needed to organise the work of the mobile controll stations. The cooperation of the concerned authorities and strict sanctions are needed to deal with the problems.

Kulcsszavak: állatszállítás, állatjólét, állatvédelmi szabályozás, pihentető/ellenőrző állomás, egészségügyi határállomás

INBREEDING IN THE HUNGARIAN THOROUGHBREDS

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Since the 19th century Hungary has numerous Thoroughbred imports. The number of stallion, broodmare and yearling import were decreased after the 2nd World war. The number of racehorses (Thoroughbreds) also decreasing in the last two decades. The population is getting smaller; however the import of the yearlings was increasing in the last years. The aim of the authors was to calculate inbreeding coefficient for all Thoroughbred that raced between 1998 and 2002 in Hungary and find out the effect of inbreeding on the racing performance. During the examined period (1998-2002) 17 448 runs of 1 131 Thoroughbred horses competing in 1 856 races were considered. The final general handicap weight by year was considered as a performance trait. Horses were progeny of 243 sires and 467 dams, ages ranged from 2 to 12 years, race distances were 900 to 3 200 meters. The pedigree information covered all the available generations and the total number of animals in the pedigree was 13 019. Inbreeding coefficients of the 1 131 raced animals were calculated with different considered generations, like 2-3-4-5-6-7-8-9 and 10; pedigree completeness' (the number of equivalent complete generations) were also computed. The total number of animals were 13 019 and 11 740 (F>0) inbred animals were found. The mean inbreeding of the inbred individuals was 0.08162 and the maximum noted inbreeding was 0.2851. The calculated pedigree completeness of the Thoroughbred horses born in Hungary between 1986 and 2000 was 14.61. The change of the inbreeding status of the population is very small and it's decreasing (-0.002/year); however 13.83% of the examined population has an inbreeding coefficient more then 0.125. This trend will continue because of the numerous imports of broodmares, yearlings and stallions. General handicap weights were collected from the annuals for the examined years. The effect of inbreeding on the general handicap weight was examined as a performance trait of Thoroughbreds to find out some inbreeding depression on it. Effects of sex, racing season and inbreeding coefficients of a given animal were examined via statistical analysis. The inbreeding level of the animal is not showed significant effect on the general handicap weight in any age; however there was an effect of racing season.

Keywords: Thoroughbred, inbreeding, pedigree, general handicap

DIFFERENT TYPES OF CANOPIES FOR EITHER HARVEST DONE BY MACHINE OR BY HAND IN PLUM ORCHARD

GÉPI ÉS KÉZI BETAKARÍTÁSÚ KORONAFORMÁK SZILVAÜLTETVÉNYEKBEN

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The plums are harvested mainly with machines in Hungary presently, for this the most suitable the best type of canopy is the one without reedy, an open canopy, for instance: the funnel- and vase crown. These trees need large plant distances (4-8 x 3-6m). One to the hardness of pulp of the plum the fruit harvested by machines harvest besides its industrial use, may as well be sold for fresh consumption as meal plum too. As for the big surface orchards I may advice machine harvest and chiefly vase-, funnel-,and Y-canopies, as the technology elements can be done the most successfully this way. As for rootstocks the vigorous Mirobalan seedlings (C162, C679) can be used, which allow the shaping of big and strong canopies.

In case of hand harvested orchards the situation is different, here the combined-, free spindle-, and slender spindle canopies can be used. This latest is used in the intensive orchard too. The intensive technology is the best to be used in small areas, so that the lot of fitotechnology works could be done in time. This technology is used not only in the case of apple, cherry, sour cherry, but more and more in the case of plum orchards. The intensive technology includes the close between rows, and within rows; the summer green cuttings; growing grass around; fertigation; and fruitthining, which factories effect on partly early makes become productive and reduce the vigorouth of growth of trees and on the other hand permit a big yield (20-35 t/ha). Weak and dwarf rootstocks are not in use at the moment in Hungary, so we choose the rootstocks for field and we govern the growth with fitotechnichs (the tying down shoot, green cutting).

Kulcsszavak: szilva, művelési rendszerek, váza-, tölcsér-, karcsúorsó koronaformák

VISION AND STRATEGIC OBJECTIVES FOR THE ROMANIAN RURAL TOURISM SECTOR

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In our country, the hosting of occasional visitors in local homes from the rural settlements has been practiced for a long time sporadically and unofficially. Since 1967-1968, the first tourist actions were organized in the rural environment. Tourism can become one of the key factors in the economical process, having in mind that Romania has a huge tourist potential adequate to various types of tourism, both national and regional. The only way to handle competition in the tourists market is to perpetually improve the quality of tourist offers and enforcing the quality of services.

În țara noastră se practică de multă vreme, în mod sporadic şi neoficial, cazarea la localnici a vizitatorilor ocazionali ai unei aşezări rurale. Începând din 1967-1968, în mod organizat s-au realizat primele acțiuni turistice în mediul rural. Turismul poate deveni unul din factorii cheie în procesul de relansare a economiei, ținând cont de faptul că România are un uriaş potențial turistic, adecvat diverselor tipuri de turism, la nivel național şi regional. Singura modalitate pentru a face față competiției de pe piața turistică este îmbunătățirea continuă a calității ofertei turistice şi asigurarea calității serviciilor.

Key words: *vision, rural tourism, strategic objectives*
Cuvinte cheie: *viziune, turism rural, obiective strategice*

APPLICATION OF A NEW METHOD THE D. M. R. FOR THE PRODUCTION OF TRADITIONAL WINE SPECIALITIES IN BADACSONY

EGY ÚJ SZŐLŐTERMESZTÉSI MÓDSZER A D. M. R. ALKALMAZÁSA TRADICIONÁLIS BORKÜLÖNLEGESSÉGEK KÉSZÍTÉSÉRE BADACSONYBAN

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In the last years, the demand for the wine specialities with neutral remainder sugar increased. The produce of the wine of this type involves big production risk. This risk with a special production technology solution, the so-called D.M.R. method according to our expectations can be decreased. In years of 2004-2006, the method was tried in Badacsony on the Olasz rizling, Szürkebarát and Kéknyelű varieties. On the pointed parcels 5 treatments were applied. During the trial-harvest the quality and quantity parameters of the must was determined. Wines was produced from the must with microvinification, and the analytical parameters of the wines were determined. On the basis of the results we can establish, that the different varieties react upon the treatments in similar way, but in different degree. The quantity of the crop to the effect of D.M.R, treatment decreased. From the quality parameters of the must, the sugar and acid content generally increased depending on the length of the treatment. The quality parameters of the wines – mainly the their acid and sugar content – were turned well. Wines from the D.M.R. treated grapes get higher scores, and according to the opinion of the experts, they were fuller and richer in ripen grape tastes.

Kulcsszavak: szőlőtermesztés, D.M.R. másodlagos érlelés

THE ROMANIAN AGRARIAN STRUCTURES' ANALYSIS

ANALIZA STRUCTURILOR AGRARE DIN ROMÂNIA

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In the present paper, we have shown the evolution of the agrarian structures in Romania. According to the last agrarian census, there are 4.759,7 thousand agricultural exploitations, of which 4.736,6 thousand are individual households (99,5%) and 3,8 thousand commercial exploitations with legal statute (0,5%).

Keywords : agrarian structures, agriculture, agricultural exploitation

DEPENDENCE OF SOYBEAN YIELD PER PLANT FROM ROW SPACE AND MATURITY GROUP IN IRRIGATION CONDITIONS

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In two years research three space rows and three sorts of soybean in irrigation conditions observed. Goal was to establish in which quantities different row space influence on soybean yield per plant. In boat years was distinguished significantly higher mass of absolutely dry seed per plant in space row of 70 cm comparing with 50 and 25 cm. By average for two years, the highest yield reach late sort – Vojvodjanka. Interaction between sort and space row show that soybean genotypes differently react on space row changing. Results strongly recommended sort's agro technique in soybean production, and irrigation must be appropriate with quantity and schedule of precipitation.

Keywords: space row, irrigation, yield per plant, sorts

EVALUATION OF GRASSLANDS AT BŐSZÉNFA IN THE D-E-METER SYSTEM

BŐSZÉNFAI GYEPTERÜLETEK FÖLDÉRTÉKELÉSE A D-E-METER RENDSZERBEN

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The future way of grassland management is greatly influenced by the new functions of the grasslands relative to the environment. This means that the role of raising nutrition will be expand by the role of keeping the natural resources.

In the EU the price of the arable are controlled by the supply and demand, so the quality of the arable and the value of it come asunder. The market economy has to evaluate the arable reliable and accurate. In according to these sentences it is necessary to show the real value of soil quality, of arable in the register of estate.

In the D-e-Meter grassland module we start the evaluation with the DM yield of the characteristic grass. This starting point is modified with the factors proper to the area. The measured and the estimated DM yield were compared to each other at 3 grassland at Bőszénfa.

The authors gave advice to use the animal unit as index number of the grassland fertility.

Keywords: Grassland, evaluation, D-e-Meter, soil quality, arable

COMPUTER MODELLING OF AUTOCLAVING AND OPTIMAL UTILIZATION OF ITS RESOURCES

AUTOKLÁVOS HŐKEZELÉS SZÁMÍTÓGÉPES MODELLEZÉSE, ERŐFORRÁSAINAK OPTIMÁLIS FELHASZNÁLÁSA

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One of the factors determining the quality of the cans and primarily the meat cans is the heat treatment, the process which is the most significant regarding the energy demands of an enterprise, so its economic aspects cannot be disregarded.
A heat treating cycle can be divided into three phases: heating up, holding, chilling. Steam is used typically to achieve the necessary temperature and water is used for chilling. There are different regulations on temperatures and time of heat holding for each product so the duration of the heat treatment depends on the product. When operating more autoclave simultaneously certain phases of the process can overlap thus the steam and water demand can develop with big fluctuation. The availability of these resources is limited or they are accessible by extra costs. Hence it is practical to coordinate the operation of the different autoclaves in the interest of thrift.
To realize the process coordination one has to possess the mathematical model of the system and the computer programme achieving the timing and simulation.
The data of the model can be used in Microsoft Excel environment by modifying the timing parameters manually or with a Visual Basic programme developed for this task, where the utilization of resources can be monitored on a diagram.
To create the decision support system in Microsoft Excel environment, the database needed for the model has to be developed, a user friendly interface and the Visual Basic for Application software providing the timing and simulation has to be created.

Kulcsszavak: autokláv, hőkezelés, modellezés, szimuláció, optimalizálás

RENEWABLE ENERGY UTILISATION IN THE SOUTH-EAST HUNGARY

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The topic of increasing the usage of renewable energy sources has become a vital issue in the South Plain Region as well, due to the growing energy costs, the decentralisation of energy supply and the strengthening role of environmental protection.
The total energy consumption in Hungary is approximately 1100 PJ.
The rate of renewable energy sources within the total energy consumption is 3.6%. Hungary wishes to increase this rate up to 6% by 2010 and up to 12% by 2015. The renewable energy potential is estimated about 2800 PJ with the solar energy and the bio-mass as the greatest contributors.
In Hungary and within that in the South Plain Region we have possibilities for the exploitation of the following renewable energy sources: geo-thermal energy, solar energy and bio-mass energy.
The situation of geo-thermal energy exploitation

Hungary has favourable geo-thermal endowments. The heat current density is approximately 100 mW/m^2, the gradient value of the temperature is 5 $^0C/100$ m.
The geo-thermal potential is about 63PJ, the centre of the utilisation is in the region of Szeged, Szentes and Hódmezővásárhely. The rate of the consumption is 4.4% at the moment.
The situation of solar energy exploitation

The possibilities for solar energy exploitation in Hungary, especially on the South Plain, are favourable. At present we can find a good number of examples for direct thermic exploitation in the region, the photoelectric exploitation is in the initial stage.
The situation of biomass energy exploitation

Biomass exploitation has a rate of 85 % within the exploitation of renewable energy sources at present with the following distribution: firewood 72,5%, waste wood 10,9%, and biogas 2,75%. In the future the energetical exploitation of chopped wood and baled straw can also be competitive. The production of energetical equipment based on biomass use can also create new work-places. At present biogas is used for heating buildings. Next year it is planned to realise its utilisation for electricity production.
Hungary and within that the South Plain Region of Hungary has significant energy potential of renewable energy sources, the exploitation of which is vital in order to dicrease our import dependence, the decentralisation of energy supply and the strengthening role of environmental protection. The endowments of the South Plain Region are outstanding with regard to solar, biomass and geothermal energy exploitation. The further spread of the use of the renewable energy sources mainly depend on the economic background and the supports. The improvement of competitiveness can be expected as the price of the traditional energy sources keep rising, so the objective of increasing the rate of renewable energy sources within the total energy use seems to be a realistic one.

ECONOMIC COMPARISON OF BIOGAS PLANTS UNDER THE NEW HUNGARIAN PRICE CONDITIONS

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Our aim was to tease out profitable scales of agricultural biogas plants with their electrical capacity on the basis of the present Hungarian regulation. According to this, in our study we compared the profitability of three running German biogas plants with different electricity production scales (100, 300 and 500 kW). In our calculations we used Hungarian prices in order to depict the Hungarian situation.

The known investment and running costs enable a full economic comparison. The new Hungarian Electricity Law grants an average delivery price of 24 HUF/kWh (approx. 9 cent €) produced from renewable sources (wind, solar energy, geothermal energy, water power, biogas, etc.). This price is guaranteed only till the end of the year 2010 (then the regulation will be reviewed). It does not make sure the long term planning of the investments. However, the profitability of the biogas plants does not depend only on the guaranteed delivery price: the cost of the feed material is a determinative factor as well. As a result of this biogas plants that utilize only agricultural products in small scale are not profitable due to high feed material costs. On the contrary, biogas plants with waste treatment that use feed material like animal offal, carcass, can be profitable, because they earn money by their waste treatment services. Thus, for them feed materials do not cost but earn money. The study also examines the way of electricity generation. The granted delivery price has different classes, depending on the time of day (there are peak and non-peak prices). Every biogas plant was divided into two different production types regarding their generation period: There was a full time, 24-hour operating CHP plant and one which operates only during peak periods, i.e. 21 hours a day. Applying dynamic economic efficiency indices, like IRR, MIRR and NPV, we came to the overarching result that biogas plants with an electrical capacity over 500 kW are profitable in Hungary. The smaller plants with an electrical capacity of 100 and 300 kW - due to the high investment costs and smaller yearly income - are not lucrative. Furthermore, the part-time operation of biogas plants is less profitable than that of full-time operated plants. The reason is that although relative incomes are much higher in part time operation, additive investments (bigger generators and gas tanks) overcompensate this advantage. We also conducted sensitivity analyses regarding state investment subsidisation and CO_2 trading. With a 25% of state support of the investment costs, which should not be repaid, small-scale biogas plants are not economical, but the biggest plant makes a higher profit. With CO_2 trading the 300 kW biogas plant is as lucrative as the 500 kW plant regardless any financial support. As a conclusion we can underline that the structure of the granted delivery price of electricity is not suitable to offer a chance to smaller biogas plants to operate profitably, and pushes economic incentives into the direction of building rather huge biogas plants. And this type of incentive does not contribute to the solution of problems like overproduction of goods and a structural turn in the agriculture. To make small-scale biogas plants also profitable, the Hungarian Electricity Law should be more structured and support the agricultural biomass production for energetic uses with a regressive bonus, based on the plant's electric capacity (like in Germany or in Austria). Also a better defined „biomass list" would be necessary, to prevent rent seeking of higher subvention.

SURVEY OF LIVE ANIMAL TRANSPORT BY RIGHT OF ANIMAL PROTECTION

AZ ÉLŐÁLLATSZÁLLÍTÁS VIZSGÁLATA AZ ÁLLATVÉDELMI SZABÁLYOK TÜKRÉBEN

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My paper try to present changed legal regulation and survey of logistics, explanation by live cattle and pig transport. Nowadays, deal with live-animal-transport is more than only an economic work one among any, it is much more complicated task than whenever it was. Beyond breeding, economic norms, you must care for animal welfare, rights as well. Social requirement and notable changed law demand realization of their transport. Fast learn of changed law, adherence are not only competitive power but subsistence requirement too.

ÖSSZEFOGLALÓ – Az élőállatszállítás vizsgálata az állatvédelmi szabályok tükrében

Írásom az élőállat szállítás megváltozott jogi környezetét és logisztikájának vizsgálatát, értelmezését igyekszik bemutatni a nagytestű állatok – sertés és szarvasmarha – ágazati példáján keresztül. Napjainkban élőállatokkal foglalkozni nem csupán egy gazdasági tevékenység a sok közül, sokkal összetettebb feladat, mint bármikor korábban volt. A tenyésztési, tartási és gazdaságossági normák mellett az állatok jogaival is foglalkoznunk kell. Társadalmi elvárás és az állatvédelmi szabályok jelentős megváltozása hívta életre szállításuk, fuvarozásuk szigorúbb és feltételekhez kötött végrehajtását. Az Európai Unióban, így hazánkban is a kötelező előírások és követelmények gyors megismerése, betartása és betartatása nemcsak versenyképességi, hanem létkérdés is.

Keywords: live animals, transport, logistics, animal protection, law
Kulcsszavak: élőállatok, szállítás, logisztika, állatvédelem, jogszabályok

MANAGERIAL DECISION SUPPORT IN THE FOOD INDUSTRY OF HUNGARY'S SOUTHERN GREAT PLAIN REGION

VEZETŐI DÖNTÉSTÁMOGATÁS A DÉL-ALFÖLD RÉGIÓ ÉLELMISZERIPARÁBAN

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Within the framework of a project conducted at the Faculty of Engineering of the University of Szeged we are surveying the source of data necessary for decision making and the information systems of food industry enterprises in Hungary's Southern Great Plain region. In order to acquire the necessary information a questionnaire was prepared for the food industry managers.

The results of the research so far support our first hypothesis: the managers of the food industry enterprises use some, but not many external data sources besides the internal ones to support their decisions. The least used are the planning and the decision support within the internal reporting system. The most frequently used external data source is the media and within this the Internet. This shows that more and more managers realise the importance and possibilities of this new media.

Our second hypothesis considering the capabilities of the information systems used by managers of the food industry enterprises was partially right. These systems are capable of supporting decisions in some way, but these services are rarely used. This can be because the managers do not consider computer systems as appropriate tools to tackle decision problems arising in a quickly changing environment and the lack of information technology awareness can also be a problem.

Kulcsszavak: Dél-Alföld, élelmiszeripar, döntés, döntéstámogatás, információs rendszer

NITROGEN FERTILIZATION IMPACTS ON YIELD OF MAIZE INBRED LINES

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The study was carried out in the experimental filed of the Maize Research Institute, Zemun Polje, on calcareous chernozem in the period 2001-2003. The traits of two maize inbred lines (L1 - FAO 400 and L2 - FAO 600) were observed in dependence on the time of the nitrogen application (N_0 - control without fertilising; N_{autumn} - 60 kg P_2O_5 ha^{-1} and 60 kg K_2O ha^{-1} applied in autumn (const.) + 100 kg N ha^{-1} (applied in autumn); N_{spring} - PK (const.) + 100 kg N ha^{-1} (applied in spring); $N_{1/2}$ - PK (const.) + 100 kg N ha^{-1} (half of which was applied in autumn and the other half in spring); $N_{1/3}$ - PK (const.) + 100 kg N ha^{-1} (1/3 of which was applied in autumn, 1/3 in spring and 1/3 through soil dressing); N_{min} - PK (const.) + fertilising in spring on the basis of the Nmin method, and forms of applied nitrogen: Urea (amide form), KAN (ammonium-nitrate form) and $(NH_4)_2SO_4$ (ammonium form).
he highest average yield was obtained by the use of Nmin method (3,486 kg ha^{-1}), as well as, 100 kg N ha^{-1} applied in spring (N_{spring}) (3,337 kg ha^{-1}), 100 kg N ha^{-1} applied in autumn and spring ($N_{1/2}$) (3,020 $kgha^{-1}$) and 100 kg N ha^{-1} applied in autumn, spring and soil dressing ($N_{1/3}$) (3,005 kg ha^{-1}) in the ammonium-nitrate form (KAN). The highest average grain yield of observed maize inbred lines (3,264 kg ha^{-1}) was obtained by the application of ammonium-sulphate in the primary tillage (N_{autumn}). The use of the Nmin method (N ranging from 17 to 35 kg ha^{-1}, in dependence on the soil mineral nitrogen content), especially in years with lower precipitation sums, resulted in the highest increase in grain yield (39.2%) of observed maize inbred lines in relation to the control.

Key words: nitrogen, time of nitrogen application, nitrogen form, maize inbred lines, grain yield

Istraživanja su obavljena na oglednom polju Instituta za kukuruz "Zemun Polje", 2001., 2002. i 2003. godine, na zemljištu tipa karbonatni černozem. U radu su ispitivane osobine dve inbred linije kukuruza (L1 – FAO 400 i L2 – FAO 600) u zavisnosti od vremena primene azota (N_0 - Kontrola bez primene đubriva; N_{jesen} - 60 kgP_2O_5 ha^{-1} i 60 kgK_2O ha^{-1} primenjeni u jesen (const.) + N-100 $kgha^{-1}$ (primenjen u jesen); $N_{proleće}$ - PK (const.) + N-100 $kgha^{-1}$ (primenjen u proleće); $N_{1/2}$ - PK (const.) + N-100 $kgha^{-1}$ (primenjen 1/2 u jesen i 1/2 u proleće); $N_{1/3}$ - PK (const.) + N-100 $kgha^{-1}$ (primenjen 1/3 u jesen, 1/3 u proleće i 1/3 u prihrani); N_{min} - PK (const.) + đubrenje u proleće na bazi N-min metode, i oblika primenjenog azota: urea (amidni oblik), KAN (amonijum-nitratni oblik) i $(NH_4)_2SO_4$ (amonijum oblik). Najveći prosečan prinos semena ostvaren je primenom Nmin metode (3486 $kgha^{-1}$), kao i 100 kgN ha^{-1} u proleće ($N_{proleće}$) (3337 $kgha^{-1}$), 100 kgN ha^{-1} u jesen i proleće ($N_{1/2}$) (3020 $kgha^{-1}$) i 100 kgN ha^{-1} u jesen, proleće i u prihrani ($N_{1/3}$) (3005 $kgha^{-1}$) u amonijum-nitratnom obliku (KAN). Primenom amonijum-sulfata u osnovnoj obradi (N_{jesen}) ostvaren je najveći prosečan prinos semena ispitivanih inbred linija kukuruza (3264 $kgha^{-1}$). Đubrenje azotom na bazi N-min metode (17-35 kgN ha^{-1} u zavisnosti od sadržaja mineralnog azota u zemljištu), naročito u godinama sa manjom količinom padavina, rezultovalo je povećanjem prinosa zrna (39.2%) inbred linija kukuruza u odnosu na kontrolu.

THE EXAMINATION OF THE STRESS BY THE FEATHER PLUCKING IN GEESE

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The experiments was conducted to determine the effect of feather plucking on the number of white blood cell (lymphocytes, heterophil granulocytes, eosinophil granulocytes basophil granulocytes, monocytes)of growing geese.

The experiment was carried out on Babat Hungarian Upgraded breed at the Szent István University, Goose Breeding Centre of Babat, Gödöllő, Hungary.

In the experiment both gosling (9 weeks old) and parent geese (1 year old) were divided in five groups (natural moulting or control group, feather plucking, antistress drug in the drinking water and plucking, apparent plucking, antistress drug in the drinking water and apparent plucking) before the second plucking.

During apparent plucking the geese were treated in a similar way to that of plucking- holding in hand etc.- but the feather itself was not plucked.

Blood samples were taken from 10 geese (5 layer, 5 goosey) of every group, one hour before plucking , and one hour after plucking.

The blood were taken from the wingvein into heparined test-tube.

The results show that the number of white blood cell of geese is changed between 14,97-17,07 G/l.

There was no significant difference between the plucked and control groups.

It can be concluded with high probability that the number of white blood cell of geese is not affected significantly by feather plucking.

Feather plucking, apparent plucking, Babat Hungarian Upgraded breed, white blood cell, antistress drug

EMPLOYMENT AND INCOME IN THE HÓDMEZŐVÁSÁRHELY MICRO-REGION

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The presentation is about the employment and income issues of the four settlements in the Hódmezővásárhely micro-region. It is clear from the examination that both the employment and the economic activity are of low level in the micro-region, only 52% of the working age population actually work. All this affects unfavourably the economic development of the micro-region, and the formation of GDP which is determined by the employment rate and the labour productivity. According to these facts improvement of the employment conditions is a cardinal problem from the viewpoint of development of the settlements and the micro-region. The presence or lack of workplaces accessible locally or by commuting considerably affects employment, the economic activity and its complementer, the economic inactivity, too. From this aspect the central settlement, Hódmezővásárhely has the most potential local economy, since almost 90% of the employees can find work in the settlement. The employees of local economies with low capacity have to find work in other settlements, so it affects the number of out-commuting workers. In the settlements beside the employees living and working in the residence, there are in-commuting workers from other settlements, their proportion is between 7 and 15% out of the local employees. According to the examination on the income per taxpayer 28.7 percent of taxpayers in the micro-region had an income equal to or under the subsistence level, 46 percent of them had minimum wage or under it in the examined time, which unfavourably affects the satisfaction of needs of the population, their accessibility to services, and the reproduction of human resources. In the case of each settlement the income category of 1-1.5 million HUF is the most typical. 16.8 percent of taxpayers in the micro-region belong to this category. I consider the income limit of 1.5 million HUF a year as a dividing line, since I think, this is the income above which the factors of satisfaction of needs become really accessible, and there is the freedom of choice, too. All this concerns hardly 20 percent of the population in the micro-region.

Keywords: labour force, employment, economic activity, income

A CONTROLLING ELMÉLETI MÓDSZERTANA A VIDÉK ÉLETÉBEN

THEORITICAL METHOLOGY OF CONTROLLING IN RURAL LIFE

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ABSTRACT

Nowadays we would like to measure, plan and assess nearly everything. Success of the enterprises in our region considerably depends on – besides economic components – the connecting factors that can hardly be defined in numbers. The manager's intuition can be very important in the given situation of decision-making but it is not advisable to build up everything on it. Methodology of controlling givs the opportunity, both strategic and operative levels, to substabtiate our success, to handle our economic processes in their place. In my study I am aiming to show that the traditional field of controlling can be enwidened, its methodology can serve as a valuable supporter for the rural development, where I study this subject from the sides of both profit-oriented enterprises and public sphere.

I am examining the tasks of strategic and operative controlling, their opportunities in the context of rural development.

I realised that the utilization of controlling can be justified in rural fields of economic life, in the rural development, besides the agrarian factors of the region.

Elements of the tools of controlling can efficiently be applied in the fields of enterprises and the public sphere. In my study I wanted to call the attention to the fact that professionals in controlling should urgently start to participate in the process of closing up the rural areas. It is sure that nowadays one token of sustainable development is the integration of controlling-systems into the rural development, in a harmonized, constructive and qualitative level.

Keywords: controlling; rural life; public sphere; strategical controlling, project controlling
Kulcsszavak: controlling; vidékfejlesztés; közszféra; stratégiai controlling; project controlling

DETERMINATION OF COCCIDIOSTATIC RESIDUES IN MUSCLE TISSUE OF BROILERS BY HPTLC AND HPLC METHODS

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The paper presents results of the HPTLC and HPLC determination of ionophore antibiotic (Salinomycine) and Amprolium residues in samples of broiler meat from commercial sale.

Extraction of salinomycine from samples of broiler muscle tissue was carried out with isooctane, followed by extract purification on silica-gel column and elution of salinomycin residues with methyl-chloride/methanol mixture (9/1, v/v). The amprolium is extracted from tissues with methanol, followed by extract purification by chromatographic separation on a XAD-2 column and elution of amprolium residues with methanol.

The HPTLC determination of salinomycine residues was accomplished on a Kieselgel 60G. The indentification of chromatographic spots was performed by spraying the HPTLC plates with a p-anisaldehyde solution. The chromatographic spots were detected under UV light at 366 nm. Determination of amprolium was performed on Silufol UV_{254} with UV detection at 254 nm.

The HPLC determination of salinomycine residues in prepared tissue was accomplished by derivatisation of a fluorescent detector. The HPLC determination of amprolium residues was accomplished on a Bio Sil C-18 HL 5 μm column with a mobile phase consisting of 0,2 mol/dm^3 aqueous solution of KH_2PO_4 – acetonitrile – H_3PO_4 (60:40:0,3, v/v/v), using a UV detector at 270 nm.

The recovery test was carried out by adding standard solutions in concentrations from 0,005 to 0,20 ppm of meat samples. The recovery rates for the HPTLC and HPLC methods were over 80% and over 90% respectively.

Keywords: meat, residues, coccidiostatics, chromatgraphy.

ANALYSIS OF UTILISATION COST OF OLDER MACHINES IN SMALL AND MIDDLE SIZED FARMS

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Despite the great volume of machine investments that is nowadays typical in the agriculture, we can find overaged, out-of-date power machines and implements in many farms. In most of the cases the cause is the lack of capital that is against the improvement, but in some cases, mostly in small or medium sized farms, the annual intensity of the machines is so low that it does not lead to the chaneg at the end of the administrative amortisation period (7-10 years), but with proper maintenance and caring supervision it is not rare that a machine can „live" up to it's 15-20 years or more.

But on the other hand we experience that some of the small sized farms that are deficient in funds can purchase an overaged machine on the used agricultural machine market and that means the basis of the farm's machine system. In this case the configuration of the machine use happens basically without any investment economical and cost efficiency thoughts, because this type of machine purchasing is caused by constrain and considering the low purchase price.

We have examined that how the above mentioned phenomenon comes out in the machine use costs of different sized farms. How huge cost-sacrifice it is if a cheaply purchased machine does not match the size of the plant, and how huge machine using and machine investment cost load it causes when these machines – that's constant costs are insignificant and in case of low exploitage, the supplemental costs are not clearly sensible by the farmer – that are used in small and middle sized farms.

Our examinations prove that the planned machine purchasing means cost saving. The using of machines with higher output than the reasonable causes capacity redundancy and additional costs. Because of this it is a necessity to improve the exploitage of the machines by changing the seeding-plan or with servicing wagework, and by this to raise the efficiency of the fixed assets.

According to our model calculations it can be stated that in case of overaged machines – where they do not care anything about cost efficiency, because „all is the same" – it is still not suggested to use bigger output power machines in smaller farmsizes.

Working with an older machine can also have the reason for existence in small size farms, but in this case a serious techical monitoring is needed, because the machine has to do all of the operations to reach the optimal utilization and there is no other machine instead in case of a breakdown. If the division of labour is between more overaged machines that are specialized to one operation each, their usage is not favourable from the side of the costs too.

Keywords: mechanisation of small and medium sized farms, machine fleet planning, machine utilisation, low cost machine fleet, overaged machines

AN ANALYSIS OF AGRARIAN STRUCTURES IN THE TIMIŞ COUNTY

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The organisational structure of an exploitation as an inseparable part of economic structure, has its own features and evolutions. The development and functioning of modern agricultural exploitations on the principle of market economy ensures the development of agricultural production with a view to ensure food safety and the development of the rural area on the whole with environmental protection.

The land fund constitutes the main factor of production in agriculture and forestry. In this paper we present the structural analysis per use categories of the agricultural land fund together with the analysis of the legal regime of the exploitations in the Banat area, and particularly in the Timiş County.

Keywords: land fund, exploitation, consolidation, county

STUDIES ON THE DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES (SMES) IN ROMANIA

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Romania is part of Europe and it needs to prove it in everything it does. It is no easy task if we take into account the necessity to develop European level capabilities that ensure genuine European behaviour and activities.

On January 1, 2007, Romania became the 27th member nation of the European Union.

Small and medium enterprises are the backbone of economy in any country and EU experience shows that the sector of small and medium enterprises can contribute essentially to the GDP and thus decrease unemployment (60% of the GDP and about 70% of the total labour force). SMEs can flexibly meet the demands of a strongly competitive market and quickly adapt to cyclic and structural changes of global economy.

In Romania, small and medium enterprises are defined by the Law no. 133/1999 concerning the enhancement of private enterprisers in the development of small and medium enterprises published by the *Monitorul Oficial* no. 349 from July, 23, 1999.

It is important to note the fact that the number of micro-enterprises has decreased steadily lately, while the number of small enterprises increased. This evolution shows that the sector of small and medium enterprises has grown up.

Keywords: regional development, agro-alimentary production, diversification, investment.

EVOLUTION AND PROJECTIONS OF PRIVATE FAMILY FARMS IN ROMANIA COMPARED TO OTHER COUNTRIES MEMBERS OF THE EUROPEAN UNION

EVOLUȚII ȘI PROGNOZE ALE FERMELOR PRIVAT-FAMILIALE ÎN ROMÂNIA, COMPARATIV CU ALTE STATE MEMBRE ALE UNIUNII EUROPENE.

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The land resoucrce law 18/1991 brought the satisfaction of repossessing for Romanians, but in the same time cused the the collapse in the rural enviorement and the Romanian agriculture.

The present paper presents the evolution of the agricultural policies of merging the land in some of the countries members of European Union and Romania. All these policies come from the concept that a productive and proficient agriculture cannot be done on small and far away plots.

Keywords: land, agricultural exploitation, private family farm

RACEHORSE TRAINING USING SWIMMING

VERSENYLOVAK ÚSZTATÁSOS EDZÉSE

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We commenced our work following a practice carried out in England, which aimed at the thoroughgoing presentation and analysis of swimming horses in a swimming pool. The technology of swimming involves the working process ranging from the caring of horses to the end of their swimming. Swimming, as a training method as well as rehabilitation, has an increasingly greater significance in the field of equestrian sports and horse riding in abroad, where everybody endeavours to achieve that horses can have a greater condition and, moreover, can reach better performance. As rehabilitation, swimming plays an important role in the increase of blood circulation (recovery of injuries and its acceleration). On the other hand, as a training method, swimming can have an advantage concerning its effects exercised upon useful lifespan, upon overcoming the animal's fear from water as well as concerning the sale of young horses, too.
Keywords: swimming, rehabilitation, training method, horses, condition, perfomance

ASPECTS CONCERNING THE AGRICULTURE AND THE SIMILAR ACTIVITIES FROM TIMIS COUNTY

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This stud y is an analysis of the agriculture from Timis County by studying the companies having activities in this field in 2004. The Timis County is most developed county from the Western region of the country, but with an agricultural potential insufficiently capitalized.

Keywords: agriculture, region, agricultural companies, vegetal and zoo-technical sector

MACRONUTRIENTS ACCUMULATION IN TOMATOES FRUIT AFTER MINERAL FERTILIZATION

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Tomato are a great vegetable loaded with a variety of vital nutients. (http://whfoods.org)

It was analyzed the distribution of some macronutrients (Na, K, Ca, Mg) in two tomatoes species in different precocity steady: early (Export II) and middle tardy (Campbell and Ace Royal) cultivated in field in the west region of Romania using differentiated fertilizations doses: Control, $N_{30}P_{30}K_{30}$, $N_{45}P_{45}K_{45}$, $N_{60}P_{60}K_{60}$, $N_{120}P_{60}K_{60}$. The experience was done in a cambic cernosium soil, with low acidity reaction and the high natural fertility potential favorable vegetables cultivation. Nitrogen (N), phosphorus (P) and potassium (K) are in quantitative terms the most important minerals for the tomato fruit as they account for more than 90% of the mineral content (Kinet J.M., 1997). Na and K were determinate by atomic emission spectroscopy and Ca and Mg by atomic absorption spectroscopy using Continuum Source Atomic Absorption Spectrometer contrAA®300 by Analytik Jena. We used the work protocol that is stipulated in the AOAC standards. In table 1 was presented macronutrients in tomatoes samples.

Table 1.Macronutrients concentration in tomatoes varieties

Tomato varieties	Fertilization doses	Na [ppm]	K [ppm]	Ca [ppm]	Mg [ppm]
EXPORT II	Control	58.00	2419.95	70.55	201.85
	$N_{30}P_{30}K_{30}$	68.70	2145.95	46.60	217.90
	$N_{45}P_{45}K_{45}$	71.30	2039.86	37.93	161.25
	$N_{60}P_{60}K_{60}$	22.00	2125.94	39,10	120.80
	$N_{120}P_{60}K_{60}$	51.50	2418.44	98.65	212.25
ACE ROYAL	Control	54.85	2386.44	49.30	185.85
	$N_{30}P_{30}K_{30}$	67.50	2380.94	79.60	241.85
	$N_{45}P_{45}K_{45}$	58.00	2620.94	15.16	228.10
	$N_{60}P_{60}K_{60}$	69.90	2206.44	15.25	201.15
	$N_{120}P_{60}K_{60}$	64.10	1872.44	83.35	142.15

The highest values were observed for K, Mg, Ca, Na. The highest content of K is observed in control samples (without fertilizers) in two tomatoes varieties. Highest Ca accumulation content is observed in two sorts by fertilization doses $N_{120}P_{60}K_{60}$. Optimum fertilization doses for Na accumulation in tomatoes samples is $N_{45}P_{45}K_{45}$ for Export II and $N_{60}P_{60}K_{60}$ in Ace Royal varieties; for Mg optimum fertilization doses is $N_{30}P_{30}K_{30}$. The mineral fertilization doses and the precocity steady of tomatoes influence the content of macronutrient in tomatoes fruit.

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http://whfoods.org

***AOAC International.Methods and Conventions of Nutrient Analysis

PRODUCTIONS AND PROBABILITIES

PRODUCȚII ŞI PROBABILITĂȚI

MOISESCU IOANA DELIA*

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It is known that the grower productions depend in a great part of meteorology situation from summer. If the summer is rainy and hot, the crops are good, if the summer is droughty the crop is not good. Through the present work it calculates the probability that in five years to be three with rainy summers if it is known the situation on the last three years. The probability that in three years from five (2006-2009) to be rainy summer if in two were rainy summers is 75%.

Keywords: droughty periods, rainy summers, probability.

Se ştie că producțiile agricole depind în mare parte de starea meteorologică din vară. Dacă vara este ploioasă şi caldă, recoltele sunt bune, dacă vara este secetoasă recolta nu este bună. Prin această lucrare se calculează probabilitatea ca în cinci ani să fie trei cu veri ploioase dacă este ştiută situația ultimilor trei ani.

Keywords: perioade secetoase, veri ploioase, probabilitate.

SOMATIC TISSUE CULTURE OF SPRING WHEAT GENOTYPES: STUDIES ON THE USE OF FIELD GROWN PLANT MATERIAL

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Tissue culture response is known to be highly genotype dependent in both the somatic and haploid *in vitro* systems. For genetic transformation and other techniques based on somatic embryogenesis immature zygotic embryos proved to be the best plant material. Although, to achieve the highest regeneration rate plant material of greenhouse origin is preferred, field grown donor plants can also have a seasonal importance.

We studied the tissue culture response of three spring wheat genotypes which are regularly (CY-45, Bobwhite) or occasionally (GK Tavasz) used in genetic transformation experiments. The culture protocol applied had been originally developed through studies on biolistic gene transfer into immature embryos of wheat. Suitability of plant material of field origin was tested here by using immature embryos of different sizes to compare their regeneration capacity as well. In the case of CY-45, the genotype used in our genetic transformation experiments, the induction frequency of embryogenic structures was higher if immature embryos of greenhouse origin were applied. In contrast to earlier results, embryos of the size >1.5 mm gave better result (84%) compared to those of the size 0.5-1.5 mm (57%). The same tendency was detected for tissue culture response values.

In the experiment performed with immature embryos of various sizes (0.5-2 mm) CY-45 exhibited higher induction rate of embryoid structures compared to Bobwhite (43% and 27%, respectively). However, this value for CY-45 was lower compared to earlier results (43% vs. 93%). This can be explained by the differences in the culture protocol among others by the osmotic treatment applied here as an essential part of the biolistic gene transfer protocol. Other explanation can be the poor quality of plant material caused by the extremely dry weather during anthesis in the current year (2007).

If immature embryos were selected by their size the cultivar GK Tavasz gave the best results. The average tissue culture response of the three genotypes was 80% for embryos of 0.5-1.5 mm and 90% for those of >1.5 mm and the average induction frequency of embryogenic structures was 30% and 21%, respectively. Latter values are by far below the average reported earlier on experiments using plant material of field origin.

We can conclude that climatic conditions had a strong influence on the suitability of field grown plants for *in vitro* usage: anomalies in precipitation and temperature during anthesis resulted in poor tissue culture response even if the size and morphology of the immature embryos seemed to be normal. This feature could be observed at both the introduced CIMMYT lines (CY-45, Bobwhite) and at the established cultivar bred under the climatic conditions of Hungary (GK Tavasz), however to less extent at the latter one. Our results suggest that for genetic transformation and other somatic embryogenesis-based techniques

- the usage of plant material of greenhouse origin is recommended for the genotypes CY-45 and Bobwhite, while
- in the case of GK Tavasz field grown donor plants can also be used assuming no extremities in weather conditions.

This work was supported by the National Office for Research and Technology (OMFB-01524/2006).

ELABORATION OF CROSS-BORDER STRATEGIC ACTION TOURISM PLANNING OF JIMBOLIA CITY

STRATEGIEI DE DEZVOLTARE TRANSFRONTALIERA DE PLANNING TURISTIC A ORASULUI JIMBOLIA

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Balanced socio- economic development on the border area between Romania and Serbia, by establishing the principal of cross-border co-operation, as a result of regional economy overall competitiveness increase and quality of living standards for the areas population improvement, by promoting the emerging tourism sector of the region and engaging communities and a wider audience in a renewal of interest in their common cultures , history and natural assets. Elaboration of Cross-border Strategic Action Tourism Planning of Jimbolia City – Guidelines for Tourism Infrastucture Founding and Consolidation in order to obtain the Recreational and Rest Center Status, as a fundament of tourism industry development- important part of local economical and social development, in order to increase the overall competitiveness of the regional economy and to improve the quality of living standards for the areas population.

Keywords: tourism, cross-border, increase, improvement.

BUSINESS LEARNING BY BUSINESS DOING

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This papers deals with a Hungarian marketing simulation programme, which runs in Hungarian conditions. It also addresses the use of the software in higher education. At the University of Szeged we have been providing students at area of business manager in the course of their lecture „Company Decisions" with simulation games. The aims of these games are to let them manage a fictive company and make their (in-group) decisions about a simulated market, making all necessary information available for them about the current decision. We have been using a computer simulated business game „MARS" for some years in our practical education. We would like to share our experiences with the colleagues interested.

Kulcsszavak: döntés, döntési játék, szimuláció, számítógéppel támogatott oktatás

THE CHANGES OF BIOGENIC AMINES-CONTENT IN RIPENING OF ORGANIC OLASZRIZLING

BIOGÉNAMIN-TARTALOM ALAKULÁSA BIOSZŐLŐ ÉRÉSE SORÁN

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In Hungary organic products as well as organic wines are getting more and more popular. In organic viticulture the nitrogen application, which can influence the contents of nitrogenous compounds in must and wine, is completely different from that in conventional viticulture. Biogenic amines are found in many foodstuffs and semiluxury foods. They develop from amino acids through decarboxylation of lactic acid bacteria. The objective of this study was to measure the biogenic-amines content during ripening of organic grape berry. We can declare that in ripening tendency was difference between samples. We have determined during our work that the histamine, serotonin-content in organic grape end of ripening does not differ from the histamine, serotonin content in normal grape. Organic sample contain higher tiramin then normal sample.

Keywords: organic viticulture, nitrogenous compounds, biogenic amines, histamine, high liquid performance chromatographie

THE FACTORS INFLUENCING THE DECISION OF WINE PURCHASE

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Nowadays, consumers are sovereigns on their incomes. Social stratification makes difference between incomes and determines significant variations within the consumption structure. The knowledge of the consumer's attitude structure represents an occasion for the investigation upon the causes leading to the acceptance or refusal of a product. The most important means is the research upon the consumers' desires. The marketing research deals with the process of investigation, gathering, filtration, processing, analysis, interpretation, exploitation and dissemination of information describing a marketing situation, for the strengthening of some decisions. A special importance in marketing researches belongs to the processes of measuring preferences, motivations, perceptions or other psychological-based information characterizing the consumers and the decision-makers, on the whole. Actually, they measure the reactions and attitudes of these persons to products, brands, stores, product varieties, advertising themes, package projects, etc.

This questionnaire represents a logical succession of questions, most of them with multiple-variant answers, and with their help we may gather data for a selective marketing research. Questionnaire completion requires qualification and talent, experience in human relationships, clear thought, good knowledge of the problems researched and ability in question making. Nowadays, consumers are sovereigns on their incomes. Social stratification makes difference between incomes and determines significant variations within the consumption structure. The knowledge of the consumer's attitude structure represents an occasion for the investigation upon the causes leading to the acceptance or refusal of a product. The most important means is the research upon the consumers' desires. In order to observe more accurately wine consumption, we have carried out this market study, by performing a questionnaire upon a group of 100 individuals. The reference population is from the city of Timisoara. Relying upon the study performed, we may conclude the fact that about 50% of the consumers prefer the half dry wine. The most known wines are those from the vineyard Murfatlar (27%), followed by Recaş (25%), Cotnari (19%), Jidvei (14%), Miniş (5%).

The most important characteristics selected by consumers when appreciating a good wine are: wine type and variety, color, surprisingly the price doesn't have very much importance, being on the fifth position in this hierarchy. The supermarket is the place for wine purchase preferred by 67% of the persons interviewed. An important aspect of the research upon wine market is represented by the price consumers agree to pay for a 0.75 l bottle of wine. Most interviewed persons would pay between 7.6 and 10 lei. Consequently, we have identified two big groups of consumers. "The conservatives", males who would pay less than 5 lei for a 0.75 l bottle of wine, family men, most with 3 members, with studies up to the intermediate level, workers or clerks and with an income of no more than 1000 lei and who appreciate the „accessible price". Given the tight correlation between incomes and the price paid for this product, the price is more important than the taste. "The sophisticated ones" are those who would pay more than 10 lei for such a product, most of them single, with no more than 3 members in their family, up to 34 years old, businessmen and/or high-education graduates, with incomes over the average, who drink occasionally and prefer a very good quality wine.

The most recognized varieties were: Busuioacă de Bohotin, Galbenă de Odobeşti, Grasă de Cotnari, Merlot, Muscat Ottonel, Cabernet Sauvignon, Riesling and Sauvignon Blanc.

MODERN METHODS TO CONDUCT AND PLANNING AGRICULTURAL ENTERPRISES PRODUCTION

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The managerial agricultural process, to any level, it's strong influenced by informatics. The contribution of informatics in this area, we consider it's a must.

In this context, considering the studies and the researches that have been made, we can say that the eficiency of managerial system of the enterprise, the decision's rationality, are depending on the optimzation of the informational-decisional system, realizable by using an informatic Decision Support System well thought out and elaborated.

The computer systems represent an important component within agriculture, due to the fact that they induce an increase in the managerial process efficiency, by centralizing, managing and making the information available.

Integrated information systems constitute a way of ensuring an efficient work of the agricultural management system.

Keywords: agriculture, production, management, computer, informatics systems

MANAGEMENT OF AGRICULTURAL FARMS USING INTELLIGENT I. T. C. (INFORMATICS TECHNOLOGIES AND COMUNICATIONS)

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In the present competition and ever-changing environment, most of the agricultural exploitations have already realized that, the one and only thing that lead to a competitive advantage is how perceptive and adaptive are they to changes.

Using Intelligent Technologies in agricultural farms these can be able to use the collected information and to efficiently adjust to changes, to improve global performances.

In this paper I describe Intelligent Technologies used in management processes of agricultural farms and the way that Intelligent ITC provides organizational data which lead to valuable information for the agricultural exploitation, in order to support the decision process.

Keywords: agricultural, management, decisions, intelligent technologies, Data Mining, expert system

YOUNG CONSUMERS AND THEIR CHOICES

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These results are from a personal study realized in Timişoara concerning agro-alimentary consumption, the characteristics that influence the behavior of the consumers and the intensity of this influence. The study of the consumer's behavior can be realized in different ways, but from the practical activity point of view we appreciate that the quantitative and qualitative approach is more operational and more pragmatic.
Keywords: consumer, consumption, consumption evolution, marketing researches

Referring to the obtained results, we mention:

Table 1 Choosing a product according to age

SPECIFICATION		AGE INTERVAL						Total
		between 14 and 24 years	between 25 and 29 years	between 30 and 39 years	betwen 40 and 49 years	between 50 and 59 years	60 years and after	
high quality products, no interest in price	nr. r.	30	14	26	29	3	5	107
	%	19,6%	28,0%	16,5%	13,7%	3,2%	3,4%	13,1%
high quality products even if it is expensive	nr. r.	31	15	48	40	17	8	159
	%	20,3%	30,0%	30,4%	19,0%	18,1%	5,4%	19,5%
good price, reasonable quality	nr. r.	92	21	84	134	62	87	480
	%	60,1%	42,0%	53,2%	63,5%	66,0%	58,8%	59,0%
cheapest products even if it is low quality	nr. r.	-	-	-	8	12	48	68
	%	-	-	-	3,8%	12,8%	32,4%	8,4%
Total	nr. r.	153	50	158	211	94	148	814
	%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Analyzing the data according to age young consumers chooses products this way:

- Consumers with age between 25 and 29 years choose the products with high quality and they have no interest in price (28%);
- Consumers with age between 30 and 39 years choose high quality products even if it is expensive;
- Concerning the perception of the buyers related to the price and quality, 59,0% consider that the relation quality – price is very important;
- The cheapest product even if it is low quality is choused by old people, and the explication of this situation is because theirs incomes are the lowest.

Conclusions

Even if incomes are those which determine the food consumption the age determines the changes in perception and motivation of choosing products.

THE MANAGEMENT OF INTERETHNIC TOURISM IN BANAT

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Banat is an area with multiethnic diversity, favourable for the development of interethnic tourism. It is composed of three large parts: Timiş Plain, representative for the Serbians, Vinga Plain, representative for the Bulgarians, and Jimbolia Plain, which is the north-west part, is also representative for ethnic tourism. Identification of the geographic distribution of demand comes not only as support, but as a necessity, as it provides information regarding the most visited places.

Due to the fact that one ethnic group forms the majority of the population in a given area, or even in a locality, agritouristic households/boarding houses/farms will be organised, ones which meet the general conditions of organisation and development of rural tourism and interethnic agritourism, and also particular conditions, at an ethnic level.

The evaluation of the rural potential which supports the development of this type of tourism is made through assessing the natural and anthropic rural touristic patrimony and also the possibilities of integration into the touristic system. For the rural regions, great importance is placed on identifying all aspects of the agritouristic potential. This potential has to blend in a harmonious way the natural elements, the anthropic ones, the material and the spiritual side, with the host's personality. There are two main stages in the process of assessing the agritouristic potential: analysis of the present situation and diagnose. In order to create a regional network of ethnic rural tourism in Banat, the following activities have to be standardised:

1. Creating the legislation and organisational premises:
   - setting the foundation for a regional association for rural tourism and interethnic agritourism, by uniting all the operators and offerers of such agritouristic products;
   - modifying and completing the normative acts with additional facilities for rural tourism and interethnic agritourism operators (for instance credits with subventioned interest, guarantees for the accredited farms);
   - developing the partnership and cooperation between the public and private fields, for the realization of projects to the benefit of rural tourism and agritourism.
2. Identifying several farms that can be introduced in a regional or national circuit – "Regional/National Centre (Association) for Interethnic Agritourism".
3. Preparing the farms in order for them to become capable of good quality services.
4. Launching the offer of rural tourism and agritourism on the national and international market, by:
   - organising manifestations and editing promotional materials with the help of the ones who carry out touristic services, of the specialised firms and the Romanian tour agencies;
   - working with specialised firms, interested in the organisation of marketing and promoting operations, in the framework of the promotional programme of the national tourism authority;
   - editing a catalogue for presentation and advertising;
   - creating a positive touristic image, which is also complete and accurate, of the offer in the field of rural tourism and agritourism in Banat.
5. Organising a database for the offer in the domain of ethnic agritourism; this should be as complete as possible and always kept up-to-date.
6. Training experts in regional agritouristic management, as well as continuing the training of the already-existent people in the field of rural tourism. This should be done by organising courses, workshops, trainings on location, etc.

THE PREFERENCE ANALYSIS OF RED DEER (CERVUS ELAPHUS) ON DIFFERENT COMPOSITION OF PASTURE

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Many kinds of animals were already studied on which composition of pasture do they reside most of their time, respectively which constituents of pasture they eat more pleassantly. In Hungary there have not been done any researches on the red deer grazing habitude in farming conditions yet. The target of this study was to examine which species of the plants are the most preferred by the red deer under the conditions of Bőszénfa's area.

The pasture planting was in 2005. At the choice of the species' planting the climate conditions and relief of this area were taken into consideration. Seven kinds of pastures or pasture mixtures were planted in two repetitions. Because of the unfavourable weather conditions the planted pasture evolution was slower than expected, in this manner the preferences examination was put off to 2007.
The preference study of plots planted with different pasture constituents was carried out by grazing of 48 hinds. During the grazing season the time of residence of the grazing hinds on every single plot was measured 14 times by five hours' observations. The observations could be carried out fromApril to the end of June because of the pasture plots were totally burnt out from the want of the moisture. Our measurements were completed with field reviews. During the reviews the most chewed species of plants were noted.

The statistical analysis of the observed period was carried out in monthly dividing too. In April the gramineaes and the white clover (*Trifolium repens L)* were grazed in the same proportion ($P<0,001$) by the hinds, but they did not prefere the giant agrostis (*Agrostis gigantea Roth*) and the bunias orientalis (*Bunias orientalis*). In May the deers grazed the white clover the most intensively, and the gramineas on the right hand side, the giant agrostis and the bunias orientalis were eaten the least. In June the hinds spent the most time by grazing on the white clover, the graminneaes were mediumly grazed, the giant agrostis and the bunias orientalis were grazed almost not at all.
Summarized the red deers spent the most of their grazing time on the white clover, while they grazed on the giant agrostis and on the bunias orientalis for the least time.

A KÖRNYEZETI TELJESÍTMÉNY ÉRTÉKELÉS LEHETSÉGES MÓDSZEREI A MEZŐGAZDASÁGBAN

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Environmental performance evaluation is a tool for reducing harmful environmental impacts in agriculture. Environmental performance evaluation is a young method of environmental management but its significance is growing. Environmental performance means environmental impacts which are resulted by different activities in industries or agriculture. Goods or services have harmful impacts on the environment not only in the phase of production but often during the exploitation of resources or consumption, maybe after consumption. Life cycle assessment is a tool, which tries to assess the environmental impacts during the whole life of a product from "cradle to grave'. According to TÓTH, 2001, there are 11 different methods for evaluating the environmental performance, but this article details indicators, like eco- efficiency and ISO 14031. Using environmental indicators in the agriculture are voluntary but can be considered as useful tools for measuring environmental performance and efficiency.

A major goal of sustainable development policy is to decouple the environmental impact of an economic activity from its growth in volume. Eco-efficiency - the environmental impact or 'use of nature' per unit of economic activity - is a major indicator of progress in achieving such decoupling. The parameter used here to monitor the economic development of the agriculture sector is gross value added. The most relevant 'use of nature' measures are use of water, emissions of acidifying substances (primarily ammonia and nitrogen oxides), and consumption of fertilizers and pesticides and pesticide residues which find their way into the natural environment. EEA, 2000

The WBCSD's definition of "Eco-efficiency" is achieved by the delivery of competitively-priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life-cycle to a level at least in line with the earth's estimated carrying capacity. Eco-efficiency: Creating more value with less impact.

This concept describes a vision for the production of economically valuable goods and services while reducing the ecological impacts of production. In other words eco-efficiency means producing more with less. WBCSD, 2001

The Global Reporting Initiative (GRI) has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. This framework sets out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance.

Kulcsszavak: gazdálkodás, környezeti menedzsment, környezeti teljesítményértékelés, mérőszámok, környezetvédelmi jelentések, önkéntesség

Keywords: farming, environmental management, environmental performance evaluation, indicators, environmental reporting, voluntary

CAUSED HEALTH PROBLEMS BY CARNIVORES LIVING IN URBAN AREAS

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Those carnivores that sometimes visit or live in urban habitats may be the vectors of numerous diseases that are hazardous for humans and their house animals. The closeness of citizens and the special environment means advantageous life conditions for several species. The density of different species living in inhabitant areas is often higher than in their natural habitats, furthermore some sources in cities (like food, hiding and roosting places etc.) attract big groups of animals. At these attractive places individuals meet more often with each other and with other species. When carnivores first appeared in urban habitats wildlife managers hoped that they will help to control the population of herbivores that occurred in high numbers in some cities and caused remarkable damages in urban habitats. But in contrast to their expectations the carnivores chose garbage, pet food, and easy preys as pets first of all for nutrition and attacked people more often. These factors together increase the risk of getting and spreading diseases, infections and zoonoses like toxoplasmosis and rabies. Although when hearing the word carnivore everyone thinks of rabies first of all but other pathogens and parasites brought in by them mean more danger.

People generally may get diseases hosted and spread by wild animals living in urban areas with the transmission of their pets and house animals. The house animals often host bacterium, viruses or parasites without symptoms and they continuously defecate the pathogens. The most eye-catching danger - almost everyday problem – for health in cities are the scats left by stray pets (cat, dog) and by urbanized carnivores (red fox, stone marten, raccoon etc.) The scats accumulated in higher amount offer a great substrate for the piling of different pathogens that may cause infection in higher concentration. Above these the scats contain the eggs of various helminths and round-worms that may infect people randomly and the evolved malady can cause blindness or it can be fatal. The eggs of these parasites are so small, that can't be seen by eyes, but they might be anywhere where infected animals occurred (for example in parks, playgrounds, sand boxes). In this case a stone marten that moved to an attic of a dwelling-house might become a potential health hazard.

BIOLOGICAL PRESERVATIVES IN SILOMAIZE ENSILAGE

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The object of the trial was to study the effect of 2 different biological silage inoculants on the dynamic of fermentation, nutritive value, and aerobic stability of 2 variety of whole plant maize silage.

The applied treatments:

1. Untreated control
2. Inoculant A with *Lactobacillus plantarum* strain PA-28 and *Lactobacillus plantarum* strain K270
3. Inoculant B with *Lactobacillus plantarum* strain CH 401 *Enterococcus faecium* strain CH 272

Two variety of silo maize, namely the Kama and Maxima were harvested at the same time with 30 cm cut above the soil (30 cm stubble) for better concentration of nutrients of plants. The maturity of seeds were hard cheddar stage, but the Kama has more leaf (as a leafy variety of maize). Chop lenght was 12-25mm, storage was in120 litre of capacity model silos in 4 replicates for 49 days in a room adjusted to constant 20-22°C. Aerobic stbility of opened silages were analysed by Honig 1990.

- There was some differences in chemical composition of row materials: Maxima contained 4% more DM (34,6%) a bit more WSC and less fibre than Kama on fresh forage basis, but there was no considerable differences in fermentable carbohydrates on DM basis of silo maize.
  That means, both variety of maize gave the same excellent row materials for fermentation.
- There was no considerable effect of biological preservatives for nutritive value (NE energy content, MP content) of silages.
- The treated silages contained more lactic acid, and the lactic-acetic acid ratio was better in treated silages, which predicts better palatability and consumption by ruminant animals. Butyric acid content was no considerable.
- The protein degradation was higher in Kama (showed higher NH_3 content).
- There was no significant difference in fermentation products of silages.
- All silages were stable until 48-60 hours exposure to air on 20°C ambient temperature.
- Inoculant B protected surely the silages against the aerobic deterioration for longer time. The effect for better aerobic stability was considerable on Maxima silomaize-silage.

Conclusion: The fermentation of silomaize can improve by the tested inoculants. The inoculant B increased better the aerobic stability. Variaty of silomaize can be considerabely role.

RESEARCH ON MOUNTAIN TOURISM IN CARAS-SEVERIN AREA

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The hereby paper presents the mountain tourism potential in Caras-Severin District, showing its natural and anthropogenic values.

Tourism in this area is not that extended compared to other areas in the country, though taking into account the diversity of the natural environment the number of virgin nature loving tourists should be higher.

In the mountain and sub-mountain area there are the resorts on Semenic, Muntele Mic, Crivaia, Trei Ape that assures Banat of a significant touristic and therapeutic potential, but unfortunately, too little turned into account.

The planning of all touristic activities needs to take into account both the current touristic interests and those of protecting and keeping the environment. The ecological principle becomes the main principle in tourism organizing.

Keywords: mountain tourism, Banat, mountains, relief.

ENERGETIC USE OF THE FLOOD RESERVOIRS

ÁRVÍZI TÁROLÓK ENERGETIKAI HASZNOSÍTÁSA

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Flod reservoirs formed by the side of Tisza can be used to biomass production. Willow seems to be the oprimal species of plant. This form of use assure the nedded safety both for grower and for user. There is presented possibility of additional utilize.

Keywords: Biomass, Flood Reservoirs

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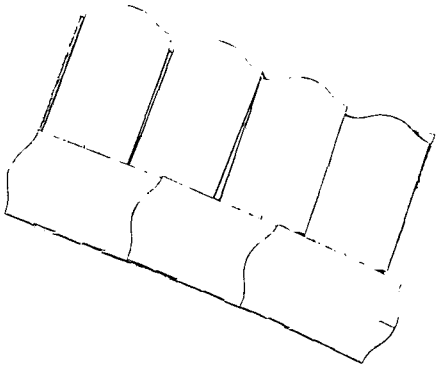

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